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BANKS ISLAND

an area economic survey



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INDUSTRIAL DIVISION NORTHERN ADMINISTRATION BRANCH
DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

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BANKS ISLAND
AN AREA ECONOMIC SURVEY

1965

A.E.S.R. m 65/1

by
P. J. Usher

The opinions expressed in this report are those of the author and not necessarily those of the Department of Indian Affairs and Northern Development.

Industrial Division,
Department of Indian
Affairs and Northern
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PREFACE

This report is one of a series of Area Economic Surveys carried out by the Industrial Division of the Department of Indian Affairs and Northern Development.

These surveys are a continuing part of the Department's efforts to determine the basis for local economic and social progress and regional planning in the Northwest Territories. Basically the surveys are intended to:


- 1) Assess the renewable resources as to their ability to sustain the local population.
- 2) Determine the degree of exploitation of these resources and the efficiency of their use.
- 3) Investigate and explain the social and economic factors affecting resource utilization.
- 4) Recommend ways and means whereby the standard of living of the local people might be improved.

As the reasons for these surveys are practical, the material presented in the reports is selected for its relevance in this respect; much academic material gathered in the course of the investigation which may have been taken into account in the deliberations is necessarily excluded from these reports. On the other hand, authors have been given wide latitude in their approach and have been encouraged to give consideration to key problems of a theoretical nature and to include such theoretical argument where its inclusion is thought to contribute to the understanding of the material presented and of the practical conclusions drawn.

The reports are published primarily for use within the Department, for distribution to other interested government agencies and for limited distribution to libraries, universities and organizations and individuals actively engaged in northern research, administration or development.

The following reports in this series have been published to date or are in preparation:

A.E.S.R. #	Title	Author
58/1	Ungava Bay	J. Evans
60/1	The Squatters of Whitehorse	J. Lotz
62/1	Southampton Island	D. Brack
62/2	Tuktoyaktuk-Cape Parry	G. Abrahamson
62/3	Western Ungava	R. Currie
63/1	The Copper Eskimos	G. Abrahamson
63/2	Keewatin Mainland	D. Brack and D. McIntosh
63/3	Yukon Territory Littoral	R. Currie
65/1	Banks Island	P. Usher
65/2	Northern Foxe Basin	G. Anders
66/1	The Mackenzie Delta	D. Bissett
66/2	Rae-Lac La Martre	G. Anders
66/3	Frobisher Bay	S. MacBain (Miss)
66/4	East Coast-Baffin Island	G. Anders, Ed.
67/1	Lancaster Sound	D. Bissett
67/2	South Coast - Baffin Island	G. Higgins
67/3	South Shore-Great Slave Lake	D. Radojicic, G. Anders, Ed.
67/4	Central Mackenzie	D. Villiers (Miss)



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TABLE OF CONTENTS

	Page
Preface	iii
Contents	v
Introduction	viii
Chapter I	1
THE PHYSICAL ENVIRONMENT	1
Climate	1
Ice Conditions	3
Physiography	5
Vegetation	6
Chapter II	7
THE HISTORICAL BACKGROUND	7
Pre-contact Period	7
Early Exploration	7
The Reoccupation of Banks Island by Eskimos	8
Chapter III	11
THE POPULATION	11
Recent Distribution of the Population	11
Vital Statistics and Family Size	13
Health	15
Education	16
Community Organizations	17
The Future of the Community	18
Chapter IV	21
THE SETTLEMENT	21
Site and Building Considerations	21
Settlement Facilities	23
Outside Agencies	24
Transportation	25
Communications	26
Housing	28
Chapter V	31
THE RENEWABLE RESOURCES OF BANKS ISLAND	
AND THEIR EXPLOITATION	31
Fine Fur Bearers	31
Wolves	38
Polar Bears	38
Ungulates	42
Marine Mammals	43
Fish	50
Birds	50
The Yearly Cycle	51
Areal Utilization	51
Food Production and Requirements	56

TABLE OF CONTENTS (Cont.)

	Page
Chapter VI	59
CAPITAL GOODS: TRAPPING, HUNTING AND TRAVEL TECHNOLOGY	59
Trapping and Hunting Equipment	59
Travel Equipment	60
Hunting and Trapping Costs	62
Dogs and Mechanized Transport	62
Chapter VII	67
THE ECONOMY OF SACHS HARBOUR	67
Income	67
Expenditures	73
The Present Status of the Sachs Harbour Economy	73
Chapter VIII	
CONCLUSIONS AND RECOMMENDATIONS	75
General Findings	75
Specific Conclusions and Recommendations	76
Recommendations for Future Research	79
Appendices	81
Bibliography	89

TABLES

	Page
1. Climate Data, Sachs Harbour	2
2. Dates of Break-up and Freeze-up, Sachs Harbour, 1956-65	4
3. Distribution of the Population, Banks Island January 1, 1952 — January 1, 1965	12
4. Origin of the Population, Banks Island, 1965 by birthplace	13
5. Education, Sachs Harbour, 1965	16
6. Freight Rates	26
7. Radio Communications, Sachs Harbour	27
8. Eskimo Housing, Winter 1964-65	28
9. Annual Fox Take, Banks Island, 1951-65	31
10. Indices of Trapper Effort, Banks Island, 1964-65	36
11. Annual Polar Bear Take, Banks Island, 1953-65	38
12. Annual Caribou Take, Banks Island, 1954-55	42
13. Annual Ringed Seal Take, Banks Island, 1955-65	44
14. Relative Areal Extent of Trapping and Hunting for major economic species, Banks Island	55
15. Fur and Food production per square mile, Banks Island, 1962-65	55
16. Average annual food production, Sachs Harbour, 1962-65	56
17. Average annual ammunition expenditure per hunter, Banks Island, 1962-65	60
18. Annual operating and depreciation costs per hunter, Banks Island	63
19. Distribution of per trapper income, Sachs Harbour, 1964-65	68
20. Sources of cash income, July 1, 1963 - June 30, 1964	72
21. Distribution of cash income, July 1, 1963 - June 30, 1964	72

APPENDICES

A.	Housing, by families, January 1, 1965	81
B.	Indices of trapper effort, by Individual, Sachs Harbour, 1964-65	82
C.	Log of a floe edge seal hunt, Banks Island, June 23, 1965	83-84
D.	Observations of bowhead whales near Sachs Harbour, June 1965	85-86
E.	Dog team travel, Sachs Harbour, 1964-65	87

MAPS

	Page
1. Area Surveys in the Western Arctic	x
2. Place Names	xi
3. Winter Camps since 1929	10
4. Sachs Harbour, N.W.T.	22
5. Traplines, 1964-65	34
6. Traplines, 1962-64	35
7. Locations of Polar Bear Kills by Sachs Harbour Hunters, 1964-65	40
8. Sealing Activity, 1964-65	45
9. Generalized Composite Maximum Land Use	54

FIGURES

1. Composition of the Population by Age and Sex	14
2. Arctic Fox and Polar Bear Take per Trapper	32
3. Monthly Fur and Game Harvests, 1964-65	52
4. Relative Seasonal Dependence on Fur and Game, 1964-65	53

PLATES

1. Sachs Harbour	21
2. Housing, Sachs Harbour	29
3. Housing, Sachs Harbour	30
4. Polar Bear Hunt, De Salis Bay	41
5. Polar Bear Hunt, De Salis Bay	41
6. Hauled-up Seal Hunt, Storkerson Bay	46
7. Floe Edge Seal Hunt, Near Fish Lake	46
8. The Seal Camp South of Fish Lake	47
9. Waiting by the Floe Edge, Near Fish Lake	47
10. Preparation of White Fox Pelts, Sachs Harbour	69
11. Preparation of White Fox Pelts, Sachs Harbour	69
12. Preparation of White Fox Pelts, Sachs Harbour	70
13. Preparation of Seal Skins, Near Fish Lake	70

INTRODUCTION

The scope and purpose of the Area Survey Program has been outlined in the Preface. Previous area surveys have investigated problem regions, with a view to alleviating such ills as were encountered with the appropriate economic programs. This report, however, was undertaken in order to complete the area survey program in the western Arctic, and it had been supposed that Banks Island was not a problem area such as those previously studied. The findings and conclusions of this report therefore differ in some respects from the pattern now familiar in other reports. This is not to say that no problems were identified at Sachs Harbour; there were indeed, and important ones, but they were different, and suggested new types of solutions.

Banks Island is the most westerly of the major Canadian Arctic Islands (Map 1). Situated between 71° and 75° north, and 115° and 126° west, it is about 250 miles long and between 130 and 200 miles wide, narrowing toward the south. The only settlement on the Island is Sachs Harbour, in the southwestern corner. The Bankslanders, despite their ties with Tuktoyaktuk, the Mackenzie Delta, and Holman, are a distinct group, with a way of life quite different from their neighbours. Here, on the northerly fringe of settlement in the western Arctic, lies the most successful trapping community in the region.

Field work commenced in early May, 1965, and was completed in early July of that year. Most of this time was spent in the settlement, although several sledge journeys were made to the nearby sealing and fishing camps, and to De Salis and Storkerson Bays. The report was written in Vancouver during the autumn of 1965. Most of the statistical material presented is based on the N.W.T. fur and game year which runs from July 1 to June 30 following.

This report would not have been possible without the assistance and co-operation of many individuals and agencies. I would like to thank the following:

In Ottawa:

Mr. G. Abrahamson, of the Industrial Division, Northern Administration Branch, Department of Northern Affairs and National Resources.

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The several ex-residents of Banks Island who provided much information about their former territory.

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Finally and especially, all of the residents of Sachs Harbour, for their hospitality and friendship, and for their patience and co-operation with my investigations. I wish to thank particularly Messers. Andy Carpenter, Fred Carpenter, Frank Kudlak, and Peter Sydney, with whom I travelled, and from whom I learned so much.

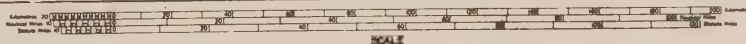
AREA SURVEYS IN THE WESTERN ARCTIC



MAP 2

PLACE NAMES

PLACE NAMES



CHAPTER I

THE PHYSICAL ENVIRONMENT

Climate

The climate of Banks Island is characterized by long, cold winters, brief, cool summers, and minimal precipitation. However, accurate, comprehensive data are lacking, as there is but one meteorological station on the island, which commenced operations only in 1955. A summary of climatic statistics collected during the first five years of the station's operation is presented in Table 1.

In general, Banks Island may be said to experience a maritime climate in summer, and a more continental climate in winter when most of the adjacent waters are frozen over. It lies in a zone of minimal cyclonic activity.

As in other parts of the western Arctic, winters are notable for their length rather than their severity, although it is true that Sachs Harbour has more extreme Arctic conditions, e.g. longer winters, lower temperatures in all months, and less precipitation, than any other station in that area. In terms of heating requirements, the number of degree-days below 65°F at Sachs is about 21,500 (calculated from mean monthly temperatures), as opposed to 11,000 at Winnipeg and 9,000 at Montreal. This means that at least twice as much fuel is required to keep a given structure at a minimum temperature of 65°F at Sachs as would be in southern Canada. Yet minimum winter temperatures are no lower than on the Prairies, and one individual from Sachs Harbour, who had previously spent all her life in the Arctic, went to work in Edmonton last year and found the Prairie winter insufferable by comparison.

The coldest month is February and the warmest is July. From late June to the end of August, the Island experiences a cool, pleasant summer – sufficiently cool, in fact, to render the mosquito problem almost non-existent. Freezing temperatures and/or snow may be expected in any month. While there is probably no point on the Arctic mainland which has not experienced a temperature of 80°F, it is interesting to note that the extreme high ever recorded at Sachs is 64°F. However, this is based on but five years' records, and may be without significance.

Diurnal temperature variation is on the whole relatively low, due to the Island's northerly position. Twenty-four hour daylight lasts for over three months in summer at Sachs, while in late December only an hour or two of twilight per day may be expected.

Precipitation at Sachs is extremely low, amounting to less than four inches annually, half of which falls as snow. New snow is very fine, and drifting is considerable. Snowfall is greatest during the early winter. The snow cover becomes extremely hard packed during the winter. Blizzards, however, are infrequent. Summer rain is generally in the form of drizzle rather than of heavy showers.

Cloudiness is much greater from May to October than in winter. The region as a rule experiences either completely overcast or totally clear skies. Fog is also much more frequent in summer, and is associated with open water.

Winds at Sachs are predominantly from the east, and southeast, except for January, June and July when northerlies or northwesterlies are most common.

In view of the almost complete absence of data, it is difficult to comment on regional climatic variation on Banks Island. The southwest coast almost certainly experiences the mildest climate on the

TABLE I Climate data

SACHS HARBOUR

Period 1955-60 71° 59'N, 124°44'W.
277' above sea level

Temperatures (degree F.)			Precipitation (inches)			Winds							
Month	Daily Mean	Daily Max.	Daily Min.	Extreme Max.	Extreme Min.	Rain	Snow	Total Water	Most Prevalent Direction	% of time	Ave. speed	No. Days w. fog, vis. 1 km.*	Mean cloud amt., tenths sky covered
Jan.	-21.8	-14.0	-29.5	23	-50	0.00	0.9	0.09	N	19	13.2	0.0	4.3
Feb.	-24.7	-17.9	-31.4	21	-54	0.00	0.9	0.09	E	22	11.6	0.4	3.4
Mar.	-18.8	-12.0	-25.6	14	-47	0.00	1.4	0.14	SE	30	10.7	0.8	3.5
Apr.	- 3.9	2.7	-10.5	36	-38	0.00	1.0	0.10	E,SE	24	13.2	3.1	4.4
May	16.3	21.8	10.8	45	-16	T	2.2	0.22	E	25	12.8	6.0	6.6
June	35.2	40.3	30.0	64	7	0.14	0.4	0.18	N,E	20	12.8	10.2	6.3
July	42.0	47.3	36.7	62	26	0.94	0.6	1.00	NW	19	13.1	16.3	7.3
Aug.	40.2	45.0	35.4	60	21	0.56	1.1	0.67	SE	23	13.6	14.1	7.5
Sept.	29.2	32.7	25.7	60	7	0.31	3.4	0.65	E	21	14.7	8.8	8.0
Oct.	9.5	15.2	3.8	33	-21	0.01	4.4	0.45	E	32	15.2	4.6	7.1
Nov.	-11.8	- 5.7	-17.8	18	-34	0.00	1.8	0.18	E	25	13.0	1.6	5.2
Dec.	-18.3	-11.9	-24.6	13	-50	0.00	1.5	0.15	E	23	12.0	3.0	3.7
Mean	6.1	12.0	0.2								13.0		5.6
Extreme or total				64	-54	1.96	19.6	3.92				68.9	

T - trace. *Period 1956-60

Source: Personal communication, Department of Transport, Meteorological Branch, 21 July, 1965.

Island. In winter this is probably due to the moderating influence of open water or lead conditions which often exist in Amundsen Gulf. By all accounts, spring comes earliest to that part of the Island, and certainly in late May and early June of 1965, the season was more advanced there than in either the DeSalis Bay area or northwards along the west coast. Very likely conditions become more severe towards the northeastern part of the Island.

Ice Conditions

In winter, all waters immediately adjacent to Banks Island freeze over. This ice is known as fast ice, as it is attached to the shore. Because tides in the region are seldom over two feet, true tide cracks do not exist. To the west of Banks Island lies the permanent polar pack. The position of its edge may vary perhaps from twenty to one hundred miles offshore, depending on the season and the winds. In winter, there is usually a lead between the pack and the fast ice along the west coast, which opens and closes according to conditions. The position of this lead also varies, but even if it is twenty or thirty miles away it can be identified in overcast conditions by its dark reflection on the cloud cover.

Amundsen Gulf is often characterized by moving consolidated pack ice, especially in late winter. Leads form and then freeze over, and substantial bodies of open water may develop. Again, ice conditions may be "read" from afar by differing reflections on the cloud cover. Moving pack conditions are especially common between Nelson Head and Cape Parry. Strong currents in the vicinity of Nelson Head are a contributing factor. Only one instance is recalled at Sachs today of a direct crossing by dogsled to the mainland in winter. In former years, if the crossing had to be made, it was considered safer to go by way of Victoria Island; a rather circuitous route from Sachs to Baillie Island.

M'Clure Strait, Prince of Wales Strait, and the southeast coast are completely frozen over during the winter. The fast ice is generally quite smooth, except when old ice is not completely melted during the previous summer, or when a fall storm breaks up young ice. At Sachs Harbour winter ice usually reaches a thickness of over eighty inches in late May. However, maximum ice thickness has been as little as seventy inches and as much as ninety inches.

Break-up in the Beaufort Sea — Amundsen Gulf area is controlled by several factors, including the movements of the polar pack, currents in the Beaufort Sea basin, winds, and temperatures. The pack southwest of Sachs Harbour begins to disintegrate in May, and the absorption of solar radiation by the open water considerably hastens the process of break-up. In most years the winter ice melts completely. However, in an unfavourable season such as 1964, small floes remain throughout the summer and are incorporated into the next year's ice cover. Old ice from the polar pack can sometimes enter western Amundsen Gulf but this is not common.

The disintegration of the fast ice is in many respects unrelated to the break-up of Amundsen Gulf, and the two events are not necessarily simultaneous. This fast ice melts in situ from the top and bottom, and is also subject to calving off at the floe edge. It is also, of course, melted along the shore at the mouths of streams or rivers. Normally the fast ice remains well into July. In late May or early June, cracks begin to appear and widen. Later, puddles form on the ice surface. They seldom become deep, as the surface water is partially drained by the cracks, and sledge travel is still common at this time. When in a previous summer the ice did not all melt, grounded floes incorporated into the fast ice may serve to anchor it and delay its ultimate break-up. At such time as the fast ice is completely broken up and in motion, the final melt proceeds quite rapidly. Where the break-up dates noted below refer to bays and river mouths, it should be noted that these points break up first, and are not necessarily accessible from other points by those dates.

Using the example of 1965, some idea may be had of the sequence of break-up in the Sachs area. By mid-May a large body of open water had developed beyond the fast ice, about ten miles from shore. During the next month, calving occurred at the floe edge, and open water became clearly visible from the bluff behind the village. To the southwest the fast ice became a narrow strip, a few hundred yards wide. By mid-June, the ice surface was becoming puddled. Sachs River, whose meltwaters usually rot the ice in Sachs Harbour by the end of June, had not yet affected the harbour proper by that date. Spring was considered

to be quite late this year. At the beginning of July, the fast ice had not yet broken loose, and sledge travel was still possible, although the floe edge had become so unstable that it could no longer be visited. Amundsen Gulf, however, was completely clear of ice between the limits of fast ice at Sachs Harbour and Baillie Island by that date.

Summer ice conditions in the vicinity of Banks Island vary from year to year. As mentioned, Amundsen Gulf is almost always ice free. In favourable years, both the west coast and Prince and Wales Strait may be ice free also, Under less favourable conditions, many floes will remain in Prince of Wales Strait, and the west coast may be so choked with ice as to render navigation impossible. M'Clure Strait is virtually never ice-free, and is seldom navigable by ordinary vessels.

Freeze-up commences in late September or early October in sheltered bays and in the case of landfast ice, and is generally complete within the month. In Amundsen Gulf, the ice takes the form of a moving pack rather than of a complete ice cover. The pack is at its heaviest between December and April, and the lead may at times freeze over completely during that period.

With reference to the break-up and freeze-up data given below, break-up is understood to mean the date when the body of water is clear, or when the ice is sufficiently dispersed to allow the movement of small boats without danger. Where two dates are given, the first indicates the date on which the first signs of break-up occur, such as the opening of leads or extensive melting. Freeze-up is understood to mean the date on which the body of water is completely covered with ice. Where two dates are given, the first indicates the date on which young ice first forms along the shore.

TABLE 2 — Dates of Break-up and Freeze-up, Sachs Harbour, 1956-65.

Year	Break-up	Freeze-up
1956	missing	September 30 — October 11
1957	July 1 — 11	September 25 — 30
1958	June 26 — July 21	October 14 — 27
1959	June 22 — July 14	missing
1960	missing	October 10 — 20
1961	June 22 — July 6	September 30 — October 8
1962	June 23 — July 2	October 1 — November 5
1963	July 1 — 12	October 5 — 20
1964	missing	September 2 — October 7
1965	Had not commenced as of July 2.	
Earliest	June 22/59, 61 July 2/62	Sept. 2/64 Sept. 30/57
Latest	(1965) July 21/58	Oct. 14/58 Nov. 5/62
Mean	June 26 July 11	September 30 Oct. 16

Source: Allen, 1964: 138, and personal communication, Department of Transport, Meteorological Branch, July 21, 1965.

De Salis Bay is usually not ice-free until August, as much of its ice melts in situ. Freeze-up dates are unknown. According to individuals who have wintered at Sea Otter Harbour, break-up there occurs between July 20th and August 15th, and is largely dependent on winds. Freeze-up probably occurs in early October. At Storkerson Bay the dates are probably similar.

Fresh water lakes inland tend to thaw and freeze slightly earlier than do coastal waters. For example the lake behind the D.O.T. station breaks up in most years from June 19th to July 6th, and freezes over from September 20th to 28th.

Overland travel by sledge in spring is usually possible well into June, at least north of Sachs Harbour. In autumn, snowfall commences in September or even late August, and by the beginning of October the ground is usually sufficiently covered to permit sledge travel again.

Physiography

Banks Island may be divided into three major physiographic units: the southern plateau, the northern plateau, and the lowlands.

Southwards from the Masik River area lies a relatively high plateau, primarily of flat-bedded sedimentary rocks, in which rivers are deeply incised. The area behind Nelson Head, at about 2500 feet above sea level is the highest known point on the island. Nelson Head itself is an extremely prominent landmark, rising about 1200 feet from the sea. The northern end of the plateau, however, is not at all clearly defined. For example, traversing the area from Raddi Lake to the Masik River, rolling country is encountered, and it is not until one suddenly overlooks the floor of the Masik River valley several hundred feet below that one realizes the extent of the climb over this ten mile distance.

The northeastern part of Banks Island, including the Castel Bay and Mercy Bay areas, is also an incised plateau, certainly over 1000 feet in elevation over much of its extent. The northeast coast consists of high cliffs, interspersed by steep ravines where rivers meet the coast.

Most of Banks Island, however, and particularly its western part, is a broad, topographically featureless lowland. Toward the east coast, Fyles (in Thorsteinsson and Tozer, 1962: 10-11) identifies a morainal belt of slightly hillier country, which constitutes the major drainage divide on the island. That the divide itself is not a particularly distinct relief feature is evidenced by the many prominent lakes along its length, particularly in the east-central part of the island. It is a peculiarity of Banks Island that this major divide lies, almost throughout its length, within ten or fifteen miles of the east coast.

The great mass of the island west of the morainal belt is drained by five major rivers: The Kellett, the Big, the Storkerson, and the Bernard, all emptying at the west coast and all braided in their lower reaches, and the Thomsen, which flows into Castel Bay on the north coast. Bedrock in this region is overlain by unconsolidated material varying in depth from hundreds of feet to a few inches. This overburden is frequently sandy or silty, and provides an excellent denning environment for lemmings and foxes. Outcrops of bedrock are extremely rare. The western part of Banks Island was apparently not glaciated during Wisconsin times, but may have been glaciated previously. Very possibly the major west-flowing rivers have at some time or times served as glacial meltwater channels, but their initial formation may predate such occurrences (ibid: 14).

Map reading is difficult within this large lowland, particularly during winter. The interfluvies are flat, or slightly rolling in some areas, while river and stream beds are incised anywhere from tens to hundreds of feet, although the valley slopes are generally rather shallow. Often the interfluvies are characterized by small knolls which are favoured locations for fox traps. Away from the coast, the plain is devoid of distinctive landmarks, except for the largest river valleys which at least in their lower reaches are unmistakable. The many tributary streams are virtually indistinguishable one from another, and only a few are marked on present maps, so that when sledging overland it is often impossible to locate one's position within a few miles with any certainty. Even Eskimos who are both familiar with the area and good map readers can be unsure of their exact location, especially when striking out on a new route. The upper valley of the Bernard, at the geographical centre of the island, is particularly flat, according to people who have trapped there. Toward the coast, the lowland contains thousands of small tundra ponds, but in winter it is usually impossible to ascertain whether one is over land or water without digging through the snow.

The west coast itself is thought to be submerging (Dunbar and Greenway, 1956: 225), and is rather complex. Because of the many prominent spits, islands, points and bays, map reading is much easier there than inland. As the lowland is in many places at an elevation of 100 to 300 feet even near the coast, the shoreline is frequently marked by low, sandy bluffs, although at some points, particularly at braided river mouths, the gradation is so light that land and sea are indistinguishable in winter.

Southwest of the Sachs River, which flows along the base of a set of high bluffs, lies a very low, flat area in which there are some large lakes, commonly used for fishing in spring. Southeastward toward the

Masik River, the elevation along the coast becomes greater, and a range of drift hills, which are being eroded from seaward, from a prominent line of steep sand bluffs known locally as the Sand Hills.

There are exposures of what is probably rather low-grade coal at the coast in the vicinity of Alexander Milne Point. This coal has in the past been utilized by families wintering at Jesse and De Salis Bays, and by Minto Inlet people on Victoria Island. Oil and gas-bearing strata may exist in the northern part of the Island. Much of north-central Banks Island is presently under lease, and is being actively explored.

Vegetation

Perhaps the most significant aspect of the vegetation of Banks Island is the complete absence of trees. Barren, open tundra prevails. Small willows may be found on river flats in the southern part of the Island. The predominant communities, based on Porsild's classification (Porsild, 1951: 134-36), are probably lichen and moss heath, that is xerophytic communities found on the better-drained parts of the Island; and marsh and wet tundra, consisting of the more hygrophytic sedges and grasses common to the poorly drained areas. The local vegetation is of no direct economic or functional significance to the Banksland Eskimos, although it provides the fundamental nutrients for many important animal species.

CHAPTER II

THE HISTORICAL BACKGROUND

The account of the prehistory and early exploration of Banks Island is kept to a minimum here. A more complete summary may be found in Manning, 1956b. Much of the information below is derived from that source.

Pre-Contact Period

Thule house ruins found at Cape Kellett, at Cape Cardwell, near Nelson Head, near the Fish Lakes and on the northwest coast, indicate that Eskimos were living on Banks Island about 500 years ago (Manning, 1956b:24-26). However, there is fairly clear evidence that there were no Eskimos permanently residing on Banks Island one hundred years ago, and it is possible that the houses found are from the end of the Thule occupation of the Island, and that the island had not been occupied for perhaps two or three hundred years in between. The accounts of the early explorers M'Clure and Collinson indicate that there were no Eskimos living on Banks Island, nor on Victoria Island at or north of Deans Dundas Bay. The Walker Bay Eskimos did not, apparently, know of any people on Banks Island, or even very much about the island itself. It is thus generally accepted that there were, as of 1850, no Eskimos residing on Banks Island, and that there had not been for many years previously.

Early Exploration

Banks Island was first sighted in 1820, by Beechey, a member of Parry's first expedition, from the south coast of Melville Island. The name Bank's Land was given to it in honour of a past president of the Royal Society. It was not for another thirty years, however, that any explorer landed on the island. That distinction was M'Clure's, who landed at Nelson Head in the autumn of 1850 in the course of the search for Franklin. Not realizing that this was the same Island as Parry had seen from the north, he named it Baring's Land. M'Clure, who had come in from the Pacific, continued up the east coast of the Island and wintered near the Princess Royal Islands. A sledge party from the expedition charted the coast northwards as far as Cape Vesey Hamilton. The following season, as further progress northwards was impossible, M'Clure sailed southward, rounded Nelson Head, and proceeded northwards along the west coast. Upon reaching Cape Prince Alfred, he continued eastward along the north coast until ice made further progress impossible. The "Investigator" wintered at Mercy Bay during the winter of 1851-52. Sledge parties that winter virtually completed the charting of the Banks Island coast line. The ice did not leave Mercy Bay in 1852, and the party was forced to winter there again. In the spring of 1853, the "Investigator" and all its stores were abandoned, and the men crossed to Melville Island by sledge. Ultimately they returned to Britain via Baffin Bay, and M'Clure thereby gained the distinction both of discovering the Northwest Passage, and crossing it for the first time.

The Enterprise, commanded by Collinson, began by following the same route as M'Clure had the year before. Being blocked by ice at the northern end of Prince of Wales Strait, Collinson returned south, and proceeded up the west side as far as Terror Island. Once again, ice barred the way, and the party spent the winter of 1851-52 at Walker Bay. These were, so far as is known, the only visits paid by Europeans to Banks Island in the 19th century.

Between 1888 and 1912, bowhead whales were intensively hunted in the Beaufort Sea, and many were taken off the southwest coast of Banks Island between Cape Kellett and Nelson Head. Only two actual landings on the Island are recorded, however, (Stefansson, 1921:240, 258), although there may have been more, and these were apparently between 1900 and 1905. Eskimo hunting parties from these vessels apparently did not go more than four or five miles inland, and although they did not see any other Eskimos, they did find recent camps and muskoxen remains.

In the spring of 1909, three sledge journeys were made to northern Banks Island by members of Bernier's party wintering on Melville Island. These men found no Eskimos.

Banks Island was continuously occupied by members of the Canadian Arctic Expedition between 1914 and 1917. The Mary Sachs was taken ashore at a site now known locally by that name, between Cape Kellett and Sachs Harbour. Here was established the expeditions' base camp for explorations in the western Queen Elizabeth Islands. During and shortly after the Canadian Arctic Expedition, several Western Eskimos and whites wintered on the southern part of the Island, both in connection with the expedition, and independently to trap.

Since the 1920s, the Island has been visited many times by whites in a scientific or administrative capacity, although whites have been stationed there on a permanent basis only since 1953.

Of the pre-1920 expeditions, two are particularly important, because of the knowledge which they accumulated, and because they were instrumental in the reoccupation of the Island by Eskimos. In the course of M'Clure's expedition the abandoning of the "Investigator", resulted in the initial influx of the Copper Eskimos who came to salvage what they could use. The Canadian Arctic Expedition was a factor, although not so clearly related, in the later arrival of the western Eskimos. It is an interesting aspect of the study of Banks Island that many of the acculturative changes in the native peoples normally associated with the contact period in the north did not come about on Banks Island, but occurred in the local cultures before and during the period when their representatives reoccupied the island. It may be that the success of this reoccupation was due to these prior changes. Further research on this matter would certainly be interesting.

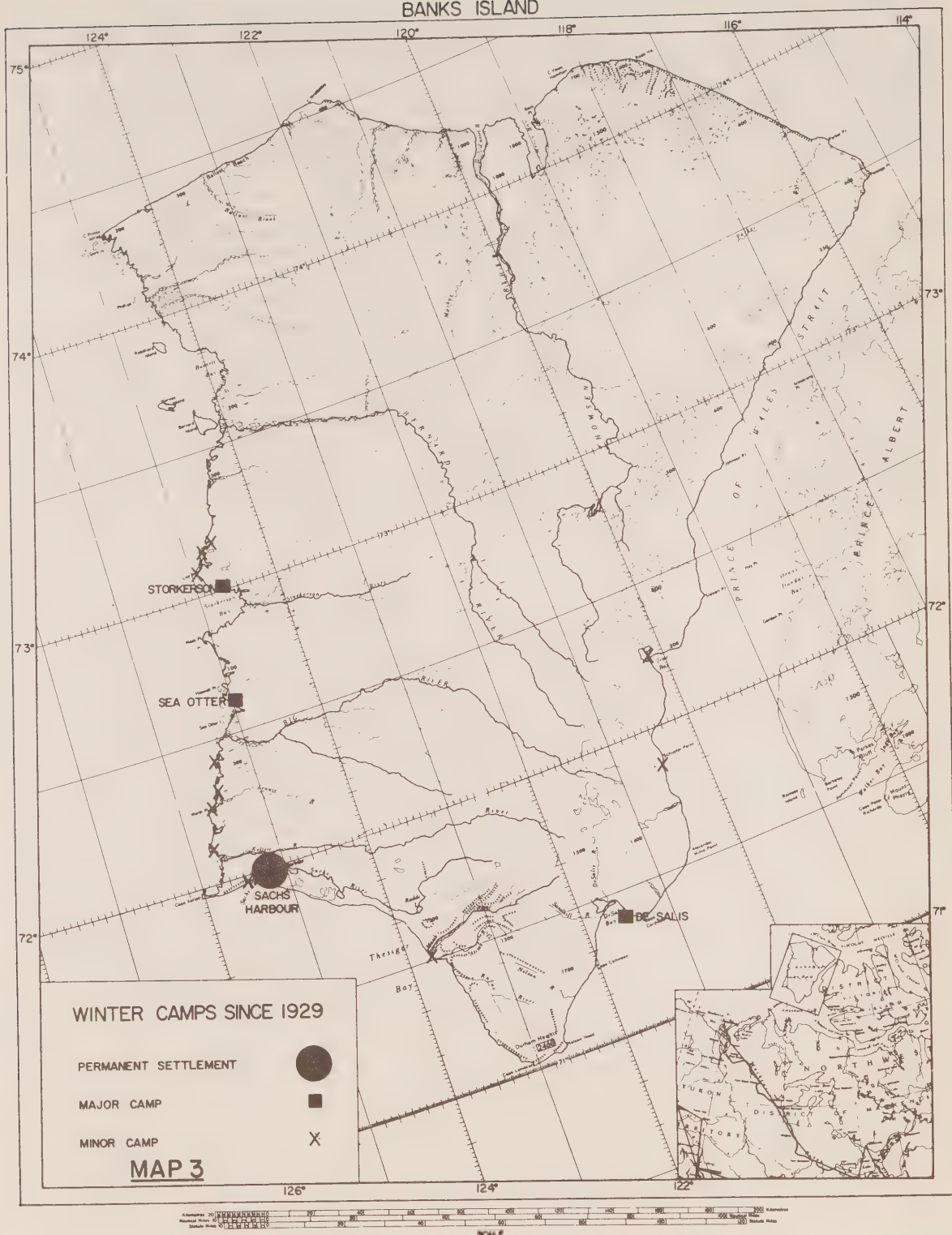
The Reoccupation of Banks Island by Eskimos

Assuming that there were no Eskimos on Banks Island in 1850, it would appear that the nearest adjacent group was that of the few Copper Eskimos living in the Walker Bay area of northern Victoria Island. Both M'Clure's and Collinson's parties came in contact with these Eskimos in that vicinity. It is almost certain that it was this group of Eskimos which later discovered the "Investigator" in Mercy Bay, although under what circumstances they did so is not clear from published accounts. In any case, once discovered, the "Investigator" and its cargo offered two extremely valuable items to the Eskimos: iron and soft wood. Stefansson estimated that the wreck was found within six years of its abandonment, and that during the next 20-30 years perhaps 1000 Eskimos visited it (it is not clear whether he meant 1000 different Eskimos or counted the same ones on repeated visits) (Stefansson, 1921:240-41). Probably the last visit to Mercy Bay was around 1890 (ibid:361), as by that time the store of wood and iron was presumably exhausted. By the time Stefansson visited the area in 1911 on his first expedition, the Walker Bay people apparently visited only southeastern Banks Island, and then only in the late winter months (Stefansson, 1913:281; 1921:287). During the fifty or so years prior to Stefansson's visit to Victoria Island, certain patterns of Eskimo utilization of Banks Island had evolved, and to some degree, lapsed. It is not clear how many parties, and parties of what size, visited the Island at any given time during the late 19th century, or how long each party tended to stay. It seems clear, however, that such parties spent at least one season at a time, because there is evidence of summer camps in the Mercy Bay area (Stefansson, 1921:367), and that they ranged widely over the Island. Stefansson deduces from the evidence of camps seen that the diet of visiting parties consisted of muskoxen, geese and caribou, in that order of importance (ibid:367). Certainly they must have travelled over much of the eastern and north-central parts of the Island to reach the "Investigator", and the consumption of geese indicates that they must have travelled as far south and west as the Storkerson River, or more likely, to the main nesting grounds at Egg River. A more complete reconstruction of the pattern of occupation of the Island, and the resultant alteration of the Banks Island environment that occurred, remains a subject for future research. However, two important points are clear: that the northern Victoria Islanders gained a knowledge of Banks Island as a potential habitat, and that during the latter part of the 19th century they decimated the muskox herds of the Island almost to the point of extinction. (see CH.V).

The occupation of Banks Island by western Eskimos occurred later, and began during the First World War. Certain Alaskan Eskimos were taken there by traders, and in connection with the Stefansson expedition, for short periods. More or less permanent occupation did not begin until 1929, however, and

the chain of events leading to this is again not entirely clear. Three Delta Eskimo families sailed to Mary Sachs that year in their own schooners, and wintered there for the purpose of trapping. In subsequent years, several other families (mostly close relatives of the original three) went to Banks Island to trap, and thereby generated the present pattern of occupance of the Island. The major attraction of Banks Island to these mainland Eskimos was the white fox, and for almost forty years the Island has been considered one of the best trapping areas in the entire Canadian Arctic. The more recent patterns of settlement and population movement are discussed in Chapter III.

BANKS ISLAND



CHAPTER III

THE POPULATION

Recent Distribution of the Population

The most striking feature of the twentieth century occupation and utilization of the Island is that virtually all activity has been confined to its southern half. So far as is known, the most northerly camp on the west coast was at the mouth of the Satsik River, north of Liot Point, just over 73°N; and on the east coast, at Jesse Bay, north of 72°N. The distribution of winter camps, that is, places which in any given year would have been occupied for at least nine or ten months out of the twelve, is shown on Map 3. Sachs Harbour, a traditional camp, has now of course become a permanent settlement. Three other camps, Storkerson, Sea Otter and De Salis, are considered of major importance, for reasons of frequency of occupation and the number of different families occupying them. The others were occupied only once or twice during the last thirty-five years, or if for several years, by only one family. It should be noted that the map may not be complete.

Initially, the mainland Eskimos sailed to Banks Island in the fall, bringing their supplies on their own schooners, and returning to Baillie Island, Tuktoyaktuk or the Delta in July or August to sell their furs and obtain another outfit. This meant that, in general, only the wealthiest and most enterprising of the mainland Eskimos went to Banks Island, as a schooner represented a considerable accumulation of wealth. It was of course possible to gain passage under arrangement with a schooner owner, generally for some percentage of one's fox catch, but perhaps in such a case the passenger (and the schooner owner) had to be relatively confident of his ability to profit on the year's trapping effort despite the additional cost.

For three decades, the mainland Eskimos occupied the Island during the winter only; during open water such camps as Sea Otter and Sachs Harbour lay deserted. The practice was to establish a base camp, where the family remained throughout the winter, and the trapper would set a trapline radiating from this point. Moving camp in mid-winter was not common because the schooner could not be moved once beached.

The mainland people have during the years camped at many different points on the Island (in some years perhaps a half-dozen different sites were occupied). Usually they camped on the west side anywhere between Sachs Harbour and Satsik River, although as indicated, there were only three major sites on that coast. The occupation of the Island from 1929 to 1958 was not continuous; early freeze-up occasionally prevented the return of the schooners, and the families were forced to stay on the mainland coast for the year (in some cases this was done by choice). More rarely, a family might not be able to get out of their particular camp due to ice conditions, and be forced to spend the summer on the Island.

It is not certain whether the Northern Victoria Island Eskimos continued to visit the east coast of Banks Island regularly since Stefansson noted this pattern on his third expedition, although this was probably the case. Certainly by the 1950s there were several nuclear families (all closely related) wintering at such camps as Jesse Harbour and De Salis Bay. Some hard winters at these camps later brought these families to Sachs Harbour; the Copper Eskimo families now at Sachs having arrived between 1955 and 1959.

The historical distribution of camps follows a pattern now familiar throughout the western Arctic: gradual evacuation of outlying areas in favour of a central place. Even such major camps as Storkerson, De Salis and Sea Otter are now uninhabited. At the first two, only the occasional fuel drum, or bits of wood or tin cans testify to their former occupation. At Sea Otter, although the houses have since been torn down, there remains a graveyard and a frost cellar of about 300 cubic feet capacity, which is still in good condition.

Table 3 shows two important trends: The movement from the camps to Sachs Harbour, and the continuing growth of the overall population of Banks Island.

**TABLE 3 – Distribution of the population, Banks Island,
January 1, 1952 – January 1, 1965.**

Year	Banks Island	Sachs Harbour	Sea Otter	Storkerson	Other west coast	De Salis	Other east coast
1952	(9)		distribution unknown				
1953	(9)		distribution unknown				
1954	27	x		x			
1955	54	x	x			(4)	x
1956	25		distribution unknown				
1957	16	16					
1958	44	27				17	
1959	64	33	9			22	
1960	60	38	9	9	4		
1961	65	61				4	
1962	69	69					
1963	65	65					
1964	75	75					
1965	77	77					

Figures in parentheses indicate number of families where number of individuals is not known.

x indicates camp occupied, but by unknown number of families or individuals.

Sources: McEwen, E.H., 1955; R.C.M.P. Annual Detachment Reports, Sachs Harbour, Conditions Among Eskimos.

The ultimate concentration of the Island's population was due, as has been the case in other similar areas, to the growing dependence of the Eskimos on the whole range of goods and services which North American culture offered them. Among the most important of these have been medical services, entertainment, and easier access to the fur market. For many families, sudden illness in the outlying camps and the anxiety which resulted from the race to the settlement for help was the deciding factor in moving into Sachs Harbour, but other advantages lured them also. With the increasing frequency of aircraft flights to Sachs Harbour, it became possible to send furs to market soon after preparation, and one had access to a more or less regular mail service whereby outside goods could be obtained within a fairly short period. Moreover, at the settlement one might attend movies periodically, or the regular Christmas and Easter celebrations, and of course one had a wider range of choice for companionship and camaraderie. In general, then, the move to the settlement brought greater diversity and enjoyment to one's life, and greater security in terms of health and livelihood to a people whose environment and occupation had offered them very little security. For these reasons, it may be assumed that the outlying camps will not again be occupied except in unusual situations and even then not continuously. With some support, and with assurance of contact being maintained, some men might spend the trapping season at isolated camps in peak fox years. Otherwise, their basic needs and wants can be satisfied at Sachs Harbour and within travelling range of it.

That the people should have congregated at Sachs Harbour rather than any other place is of course due to the choice of Sachs Harbour for the location of the R.C.M.P. and to D.O.T., which was in turn

governed by its favourable accessibility, relative to other points on the Island. The site is closer to the Mackenzie Delta by either sea or air than is any other of the traditional camps, and ice conditions are more favourable also.

Since then, a store was established in 1958 by an Eskimo who had lived there for many years. The R.C. Mission was built in 1962.

The figures presented in Table 3 do not include school children, who are in Inuvik for ten months of the year. Total population including school children was 102 in the summer of 1964, and 97 in the summer of 1965. Because the percentage of school age children actually attending school has presumably increased since 1952, the real growth rate of Banks Island's population would be slightly greater than suggested by the table. It may also be noted that there has been less fluctuation of the population from year to year recently, and this is primarily the result of year-round occupation of the Island since about 1958.

Much of the notable growth of the Island's population since the establishment of the permanent settlement at Sachs Harbour is accounted for by immigration. Table 4 indicates the origins of the population.

TABLE 4 – Origin of the population of Banks Island, 1965, by birth place.

Area	Adults (17 and over)	Children (16 and under)	Total
Banks Island	6	18	24
Mackenzie Delta	14	14	28
Arctic coast (Shingle Pt. — Paulatuk)	10	13	23
Victoria Island	12	8	20
Other Arctic	1	0	1
Other	0	1	1
Totals	43	54	97

Of the family heads, thirteen are western Eskimos, five are Copper Eskimos, and one is from the Spence Bay area. Only three of the family heads were born on Banks Island and may be considered to have spent their lives there, and these are sons of trappers who were not born on the Island. The important consideration here is that, amongst the men at least, the residents of Banks Island are there by choice, even the ones who were born there. All have consciously made the decision to move there, or to remain there having experimented on occasional years with living in Tuktoyaktuk or other mainland points. The main inducement appears to have been, for mainland Eskimos at least, the economic opportunities available on Banks Island and the willingness to seize them. There has also been the factor of kin, and the power of schooner owners to dictate who might gain passage. Reasons for the more recent influx of Copper Eskimos are not altogether clear. It is also true that at least twenty families had in the past lived on Banks Island and chose to return to the mainland. In some cases this was due to factors of age and health, but there appear to have been other considerations which led to dissatisfaction with the situation there, which remain yet to be investigated.

Vital Statistics and Family Size

Figure 1 indicates the age-sex structure of the population. A three generation structure appears to stand out, particularly among males. It may be noted that five male family heads are between 50 and 59, and eight are between 30 and 39. Most of the older men are among those who first came to the Island in the 1930s. Many of the family heads in their thirties are sons of the older men or of others who spent many years on the Island and have since returned to the mainland. Some of the boys in their late teens who have not yet formed separate families are also sons of the oldest generation. This situation is to some extent true of the women also, but is not so evident in Figure I. It may be noted, however, that the women are on the

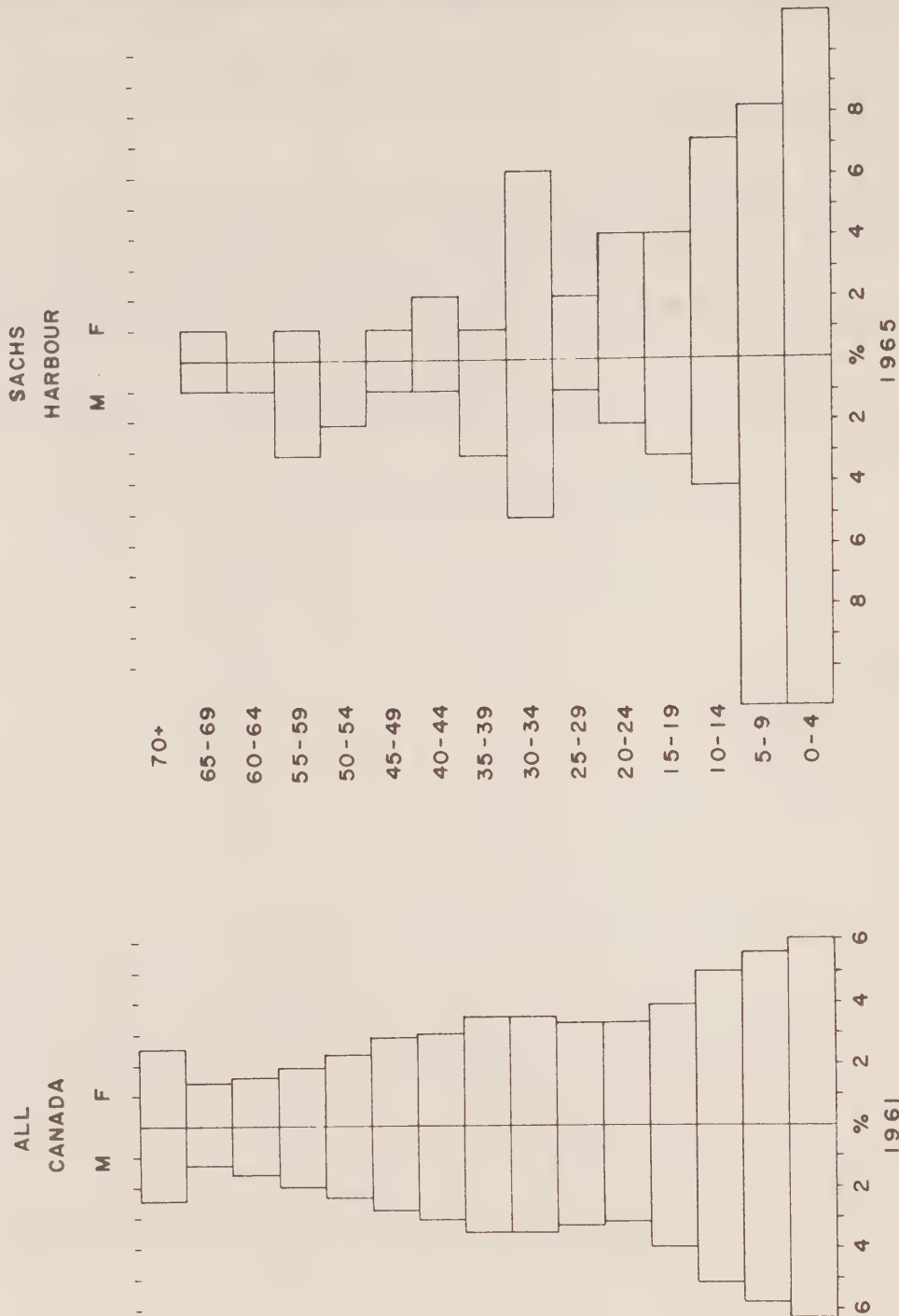


FIG.1
COMPOSITION OF THE POPULATION BY AGE AND SEX

whole younger than the men. A remarkable aspect of the population is the high proportion of children: 42 per cent of the population being under the age of ten years. This is representative of the extremely high birth rate among Eskimos, common to the entire Arctic. Also noticeable is the dearth of old people, which reflects the fact that the first settlers came as trappers in their prime. In part, this includes a generation not yet grown old, but as mentioned, many of the former inhabitants decided to return to the mainland. The present age structure has important implications for the future, which will be discussed below.

In terms of sex, the population is at present as evenly divided as possible; there being 49 men and 48 women. It is very difficult to discuss the birth, death and net growth rates of Banks Island. The group is so small that statistical projections from available data would be meaningless. It is best, therefore, to base notions of increase at Sachs Harbour on the trends observed amongst the western Eskimos (Abrahamson, 1963:16) and Copper Eskimos (Usher, 1965:75). These trends indicate high birth rates and net increase rates, which are increasing, and high infant mortality rates and fairly high death rates, which are decreasing. The outlook for the near future at least points to a rapid increase in population.

The average family size at Sachs Harbour is perhaps a debatable point, and certain assumptions made here should be clarified. The total population as of July 1, 1965, which is taken to be 97, includes those who had resided at Sachs throughout the previous year, and those school children sufficiently dependent upon their families that they would necessarily return to Sachs in both the summers of 1964 and 1965. Thus, older sons and daughters who either were not at Sachs at all during the year, or who normally reside elsewhere but visited home for a short period, were not included in the population.

The definition of families is somewhat arbitrary. The effective unit of production and consumption in many Eskimo groups is the nuclear family. The number of these units at Sachs is nineteen, and because it is this economic aspect of the family which is of interest here, these nineteen units are termed families for convenience. In this case, the mean family size is 5.1, with 2.8 members being 16 or under. However, not all the units are in fact nuclear families. There are single males, two are headed by widows and have no fully productive members, and one family has two productive males. (Two families contain sons who have just begun to trap and hunt a little and who will no doubt be contributing fully within a year or two). Because of the actual lines of distribution of produce, the following adjustments will be made in calculating family size and dependency ratios. The two widows and their families will be excluded, as they are largely non-productive, and because they are on welfare, do not partake of the locally produced food pool to any great extent. Two of the three single men will be excluded from family but not dependency ratio calculations because they produce basically for themselves, and some of whatever surplus they have goes to the widows. The third single male lives with his sister and brother-in-law, and will therefore be included with them as a family, but considered separate as a producer. The family with two productive males will be considered one family in calculating family size, and as two units in the dependency ratio. On this basis, there are fourteen families, consisting of 87 people, giving an average of 6.2 per family, with 3.6 members 16 or under. This is a rather higher figure than for neighbouring groups. In calculating the dependency ratio (the ratio of males between 17 and 60 to all others), however, account must be taken of the fact that 19 children are at school for ten months, of the year, and during this time essentially are not supported by their parents. As dependents, they should therefore count only as 3.2, rather than 19 people. Accordingly, there are 18 producers out of a total of 72.2 consuming units, giving a dependency ratio of 4.0. This compares with ratios of 3.6 to 4.7 in the Coppermine — Holman region, and 3.8 in all of Canada (Usher, 1965:75).

Health

By comparison to neighbouring communities in the western Arctic, the level of health at Sachs Harbour is excellent. Not one individual is now in Camsell Hospital, and this has apparently been true for some years. No serious diseases have broken out recently. Minor ailments are also infrequent. Dysentery or infectious hepatitis are rare, although the whole village may contract the common cold, virtually at once, often following a plane visit. Infections, eye and ear ailments are infrequent, but can be a danger. The good health enjoyed at Sachs Harbour is unquestionably attributable in large measure to adequate and sanitary housing and site conditions.

There are no qualified medical personnel at Sachs Harbour. The R.C.M.P. are responsible for administering first aid, and can, if necessary, contact Northern Health Service doctors in Inuvik by radio, with whose aid preliminary diagnosis and treatment can be made. In an emergency, however, probably a minimum of five hours would elapse between its occurrence and the arrival of the patient at hospital in Inuvik. This assumes ideal conditions which of course cannot be depended upon. In theory, doctors and/or nurses from Inuvik visit the settlement monthly, but in practice such visits are not this frequent. Unless these visits are announced well in advance, individuals in need of care may be out of the settlement. Dentists' visits are rare. Everyone is X-rayed once a year by Northern Health Service's annual TB survey.

The great majority of parents at Sachs Harbour would like to have a nursing station in the village, for despite the general good health, they feel insecure about the adequacy of arrangements in emergency situations. This concern, particularly relating to their children, has been a major factor in the centralization of the Island's population, as mentioned. The people at Sachs Harbour know that superior medical care could be made available to them locally, and they are anxious to get it. They also find themselves at a disadvantage, inasmuch as they have the distinction of being considered sufficiently affluent that they are generally asked to pay their hospital and medical bills, including transportation to Inuvik when necessary. This burden would be reduced if there were a nursing station at the settlement.

Education

The general level of education at Sachs Harbour is, compared to other western Arctic communities, good, both at the adult and school age levels. Table 5 indicates the educational achievements by grades among Sachs Harbour people as of the summer of 1965.

TABLE 5 — Education, Sachs Harbour, 1965.

Grade completed	Presently enrolled (16 and under)	Formerly enrolled (16 and under 17 and over)		Subtotal	Total
1 ¹	6	1	1	2	8
2	4		4	4	8
3	2	1	4	5	7
4	2	3	3	6	8
5	3		1	1	4
6		1	2	3	3
7	1 ²		1	1	2
8	1		1	1	2
9					0
10			1	1	1
11			1	1	1
12					0
Totals	19	6	19	25	44

¹Beginners, 1 jr., 1 sr., and 1&2 (opportunity) classed as grade 1.

²Over 16 years of age (vocational school).

Nineteen of 41 adults have had schooling, and an equal number are literate although a few of the individuals involved are different in each group. Thus almost half of the adults are literate, in English, and all but three adults can speak and understand English. Those adults with some schooling were educated at the old mission schools, primarily at Aklavik and Shingle Point. As may be seen, most reached only grade three or four. Thus, although they are literate, they seldom have the other skills acquired in grade school, such as arithmetic. Several adults who are not literate have expressed interest in learning to read and write, and it seems likely that some form of adult education could usefully be introduced to the community.

In 1957-58, courses were offered at Leduc, Alberta, to Eskimos in heavy equipment operation and maintenance, in connection with the construction of the DEW line. One man now living at Sachs attended this course, and although he did not subsequently work on the DEW line, he is a skilled cat operator and has been employed by the D.O.T. at Sachs for this purpose. One girl is presently enrolled in a typing course at the Sir John Franklin School in Yellowknife.

It may be noted that several of the older children of Sachs Harbour families, not included in the community economy for reasons previously outlined, have continued their education with considerable success. For example, one boy is at university in Winnipeg, and another girl is a civil servant in Edmonton.

As in other Eskimo communities, the hope for the future is considered to lie with the education of the children. Of 27 school age children, 18 were attending school in 1964-65, and six others had been to school previously. It is fairly common, in large families especially, for a girl to be held back for a year, possibly on a rotating basis with a sister, to help out with the younger children. Most of the children presently enrolled are in the lower grades, but this may merely be a reflection of the population's age structure, as it is likely that many children will continue until the sixth or eight grades at least.

It is worth commenting on the fact that two or three boys, having reached about grades six or eight, have elected to return to Sachs Harbour to make their living by hunting and trapping. This might indicate a continuing life for the community, and also that future trappers will not only be better equipped to handle their marketing and financial affairs, but will also be better able to adapt to new situations should trapping cease to be a viable way of life for them.

All children presently attend the regional school in Inuvik, as there is no school at Sachs Harbour. These children are boarded in the hostels, and are only home for two months of the year. Most parents are dissatisfied with this arrangement, for several reasons. They miss their children, they worry particularly about the older ones getting into trouble in Inuvik, and they would like to know more about what their children are doing. Most parents recognize the necessity of their children going to school, and many are genuinely interested in their children's education.

The writer feels that in view of favourable parental attitudes at Sachs, a day school there would have an excellent possibility of success, in addition to conforming with the community's desires. Certain adjustments in community life would have to be made: for example, the family journeys to Fish Lake in May and June would interfere with the school year, and, as mentioned, the possibility of overcrowding exists for large families. These problems, however, should not be insurmountable.

Community Organizations

There are now three active group associations at Sachs Harbour. In late 1963, the trappers of the settlement formed an association and were granted exclusive trapping rights to all of Banks Island south of a line drawn between Pennell Pt. on the west coast and Johnson Pt. on the east coast, in accordance with the Game Ordinance of the N.W.T. (Schedule A, licence 9). There is an elected president of the association. No person may trap in this area without the express consent of a majority of the association members. Any member of the association who fails to exercise his trapping rights in the area for more than one year must apply to the association for readmittance.

In summer of 1965, a community association was formed, and its charter was granted. The association includes both Eskimos and whites. Its officers are Eskimos, and some members of the white community are in consulting or advisory positions. Although the group intends to act first of all on community projects, including the operation of a community hall, the association provides for the first time a vehicle for settlement-wide action on any matter.

Several of the women in the settlement belong to the Anglican Womens' Association, which meets once a week in the winter.

The Future of the Community

In this section it is proposed to bring together some of the material already discussed, and to comment on the present social organization, in order to suggest the outlook for Sachs Harbour as a community. We wish to know whether there will still be trappers in ten or twenty years time, and if so, what sort of a community it will be; what will be its wants and needs, and what sorts of social action will it be capable of. The comments below must be taken as tentative only, as must any such future projection.

The essential unit of production, consumption, and economic decision-making is the nuclear family; the latter function particularly lies with the head of the family. All of these decision-makers live in Sachs Harbour by choice, and they came for the primary purpose of trapping. By doing so they committed themselves to the opportunities and vagaries of a particular economic system. It is a cash economy whose viability depends on a system of debt, or credit, whichever one is pleased to call it. It is a precarious economy, offering no guaranteed annual income or any assurance of how one will fare in any particular year; both supply and demand of furs being highly variable and uncertain.

It has been observed amongst some Canadian Eskimos and in some other trapping societies also, that the introduction of a trapping economy replaces a primitive communal way of life with a more individualistic outlook. The relations between people and property change, and so accordingly do interpersonal relationships. The transition occurs gradually. If there was in the beginning a situation where almost all things are shared, some things became individual property while others remained shared, until very little was shared any more, and almost all the means of production and the produce itself were considered individual property. The Sachs Harbour people seem to have passed through such a development and are now at the highly individualistic end. The idea of communal ownership or even shared ownership of property between two families (except father and son) is now generally alien to them; for instance it is highly doubtful that any would jointly purchase a boat or a motor sled.

The Sachs Harbour trappers are quite independent of each other, for it is possible to hunt and trap without the aid of anyone else. They are not completely independent, however, as this is impossible in a debt system. Their dependence is on those who outfit them and to whom they must sell their furs, and these people with one exception live outside the settlement. Sachs Harbour trappers are highly individualistic, and moreover have considerable initiative, which after all is presumably why they came in the first place.

The Sachs Harbour people are not used to the idea of leadership, particularly from any of their own number, *nor are they used to the notion that they can act collectively, although there have been moves in this direction recently. One such move was the formation of the Trappers' Association, which stemmed from the recognition of the fact that it was possible to defend their individual interests collectively. Now there is a community association, which will also tend to be seen in this way. Although the possibility of collective action seems to have been recognized, it remains to be seen how well such organizations can function, especially where there is a crisis or a deep division of interest in the community. Leaders are elected for these organizations, it is true, but will their leadership always be accepted, and can these leaders adequately mobilize the group as a useful instrument of change? At what point will co-operation cease when conflicts of interest between community and family, or community and individual, arise? Realistic answers cannot be given to these questions.

One reason for optimism, however, is that the community does not appear to be saddled with any deep rifts between two or three groups, such as along racial or religious lines. In some ways, it is true, the western Eskimos look down on the Copper Eskimos, who are thought to be more primitive, less sophisticated and less clean—all not unusual inter-group prejudices. The distinction is noticeable in housing,

*It is not meant to imply that the people do not recognize authority, which is not equated here with leadership. The R.C.M. Police are recognized as having authority, i.e. the power to implement demands, and so are the various government agencies in Inuvik. Indeed they have at times been forced to recognize positions of authority among their own people, particularly in the days of winter occupation when the schooner owner was in a power position. Even now, the local store keeper has some measure of authority, particularly over those who trade frequently with him or are in debt.

inasmuch as the Copper Eskimo live in the same area apparently by their own choice, but the divisions do not appear to run deep, as there is no lack of social intercourse between the two groups. Copper and Western Eskimos hunt and trap together and there has also been intermarriage between the two groups. Both groups are predominantly Anglicans, there being very few Catholics in the settlement.

Another development appears to have been a growing consciousness of Sachs Harbour as a community, to which one belongs, has loyalties to, and for which future plans are made and worked for.

In general, the outlook for some measure of group action and co-operation in certain endeavours appears to be moderately good, although any crisis situation could upset this.

It has been suggested that the present centralization of the Island's population at Sachs Harbour is the result of a definite trend, and it may be expected that the families now at Sachs Harbour will not reoccupy the outlying camps except in unusual circumstances. Moreover, unless similar services to those available at Sachs are provided at other points on the Island, which seems unlikely, it is doubtful that other families from either Victoria Island or the mainland would wish to occupy other parts of the Island on any regular basis.

The population of Sachs Harbour has remained fairly constant for the last few years, at about 100 people (including school children) and just under twenty trappers. It will be demonstrated in Chapter V that this is close to the desirable level for the population in terms of exploiting the Island's resources, and should not be significantly exceeded. What assurances are there that the population can remain at this level, and on the other hand, are there grounds for supposing that in ten years or so there may still be trappers on the Island?

There appear to be some important mechanisms at work which could tend to regulate the population. The high rate of natural increase has been noted. However, there will no doubt be a certain proportion, perhaps even a high one, of the children now growing up who will not wish to remain in Sachs Harbour. Certainly there are many attractions for a child grown used to Inuvik or such places to remain there rather than return to an isolated community where the scope of activity is limited. Some of the younger people will decide to make their lives at Sachs Harbour, as indeed some have already made this choice. Immigration still occurs, also. A Tuktoyaktuk trapper and his family intended to go to Sachs in the summer of 1965, having gained the permission at the Trappers' Association. These tendencies indicate on the one hand the probable permanence of Sachs Harbour, and at the same time there appears to be some mechanism to prevent overcrowding. Moreover, the Trappers' Association provides a vehicle whereby population could be very closely regulated: If too many were leaving, the Association could welcome and encourage immigration, whereas if crowding appears likely, they could halt immigration altogether. The writer believes that the Trappers' Association should be encouraged as such a regulatory body. In 1963, local government agencies suggested, for special reasons, that a Spence Bay man should move out of that settlement, and so was sent to Sachs Harbour. The Trappers' Association was never consulted about this, and the men resented this affront, although they had no objection to the individual involved. It is hoped that such a situation will never occur again.

Marriage is also a factor. Due to the limited choice in such a small population, husbands and wives are often sought from other settlements. Generally a young man will marry a girl from perhaps Tuktoyaktuk or Holman, and return to Sachs Harbour with her, whereas girls often marry into families from these settlements, and move away from Sachs. A balancing effect is thus achieved.

The structure of the population must also be considered. While there are very few old people in the settlement now, in ten years time several of the present trappers will no longer be active. In the past, when Banks Island was only a wintering place, people simply did not return to Banks Island any more when they were too old to trap. Now, however, Sachs Harbour is home to these people, and it is by no means certain that they will return to the mainland. It seems likely, therefore, that as older trappers retire, the proportion of fully productive families will decrease, and that welfare expenditures may have to be increased. Very few

families, despite their present apparent affluence, have any reserve in savings, and most could not support themselves without trapping for any length of time. In general the age structure should smooth out, as people both young and old will be entering and leaving the population. The most important trend in the population structure appears to be the possibility of an increasing number of old people.

For the next ten years or so, it seems likely that Sachs Harbour will continue to exist as a community of perhaps 90-120 people, permanently residing there, and these people will be trappers. Some of the future needs of this community will be discussed in Chapter VIII. Suffice it to say here that the primary non-economic need at this time is a nursing station, and serious consideration should also be given to an elementary school.

CHAPTER IV

THE SETTLEMENT

Site and Building Considerations

Sachs Harbour lies at the foot of a bluff, which in the vicinity of the settlement rises about 200 to 250 feet. Of the terrain conditions, little may be said with any certainty as there are no available site reports, and the research on this report was completed before the ground was completely bare. The area in which the settlement is built slopes gently seaward, and is probably for the most part silty material. The ground is hummocky, and vegetation is scant. The foreshore consists of a sandy beach, which in front of the centre of the settlement broadens and contains a small, shallow lagoon. Many parts of the village tend to become extremely wet during the spring melt, but this condition generally lasts for only two or three weeks.



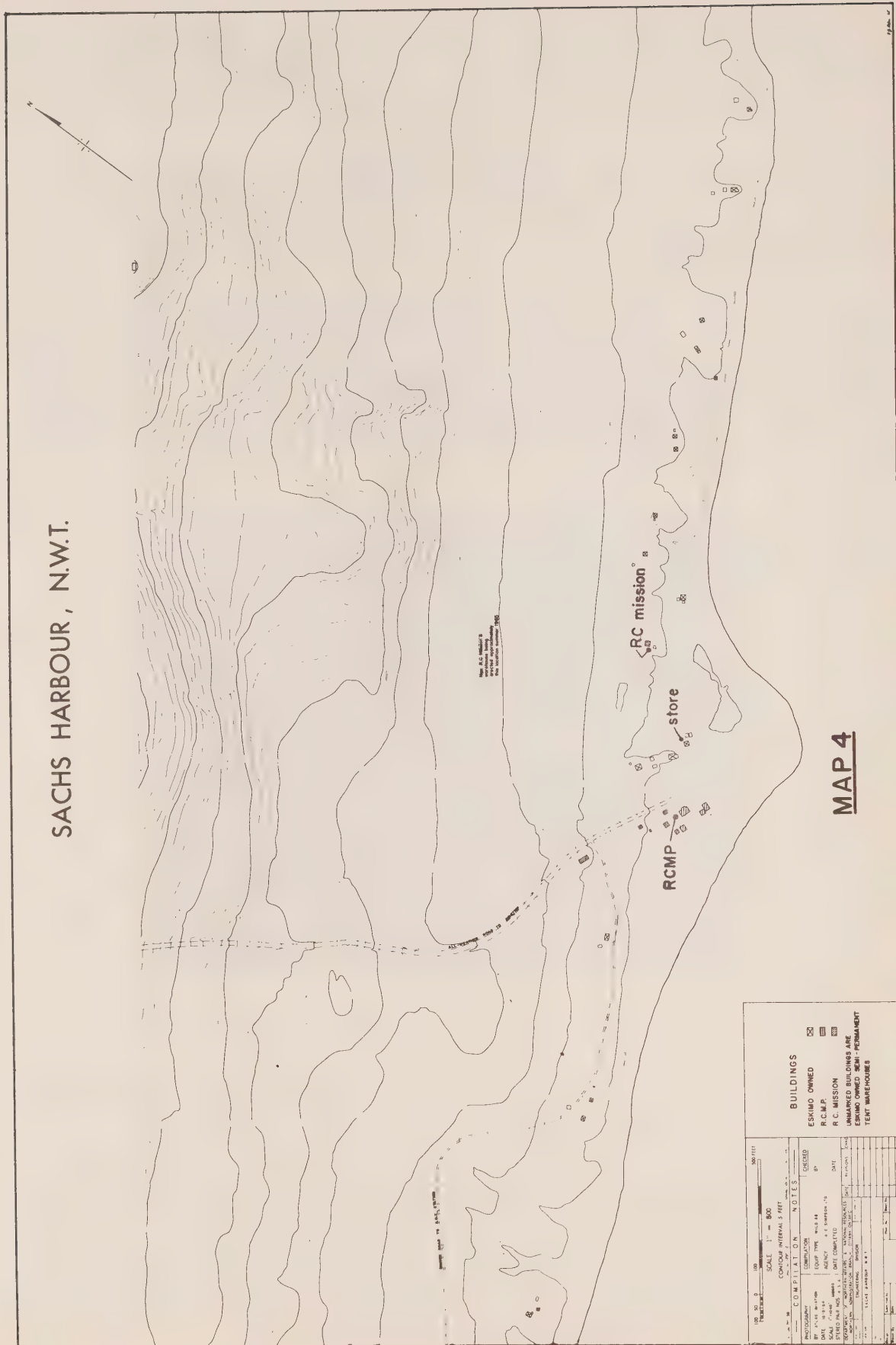
Sachs Harbour

View looking east from the centre of the village, taken during the second week in May. The hatch of a small frost cellar may be seen in the left foreground.

The settlement, as may be seen on Map 4, extends along the waterfront for almost a mile, despite the small population. This is basically because each family desires a waterfront location, although some people at the extremities of the settlement are planning to build new houses closer in. The "centre of town", such as it is, lies at the foot of the airfield road, where the R.C.M.P. buildings, the store, and three families are in relatively close proximity. The airstrip lies along the crest of the bluffs, and the D.O.T. station is about a mile and quarter to the northwest of the village. There exists without doubt considerable space for future construction, especially if a more rational and compact plan were adopted. The quality of the site from the point of view of soil structure and permafrost conditions is not known.

SACHS HARBOUR, N.W.T.

MAP 4



Settlement Facilities

Water Supply and Sewage

There is no water supply system, nor is there any organized garbage or sewage disposal at Sachs Harbour. Water is obtained from three main sources, which are, in order of their importance, lake ice, river water, and snow. In autumn, the men cut ice from the small lake behind the D.O.T. station, (or in a few cases, from Sachs River), and this supply usually lasts until the end of May or the beginning of June. From then until open water, usually a period of four to six weeks, snow is used. From early July to early October, water must be obtained from Sachs River.

During this three month period, water requirements are high, for two reasons. One is that the dogs must be watered every day, and the other is that the peak seal hunt comes at this time, and most saleable skins are washed. Per family consumption varies from perhaps 150 to 300 gallons per week, and a conservative estimate for average consumption would be about 200 gallons per week. At the same time, water is much more difficult to obtain, except in such an exceptional year as 1964, when snow was available all summer, or fresh water could be obtained from the puddled surfaces of old ice floes. One must go at least eight miles up river from the settlement to obtain fresh water, and if a west wind is blowing, probably ten miles, as under such conditions, salt water backs up in the river mouth. Transport is generally by 18 foot canoe, and the water is carried in 45 gallon drums. In windy weather, drums can only be half or two-thirds filled, thus necessitating extra trips. Usually two or three drums are taken at once, and one or two trips a week are made, depending on needs. These trips take at least half a day, or longer if the water is rough. Some individuals estimate their gas consumption at three to five gallons per trip.

Clearly the obtaining of water is both time consuming and costly. Over the summer period, perhaps eight to ten full working days per man, or about ten per cent of productive time, is spent getting water. In addition, each man may use about seventy gallons of gasoline, or \$75.00 worth. Since the water problem is greatest in summer, investigations should be made as to the feasibility of siphoning water from the D.O.T. lake through a hose down the hill to a tank in the village.

Sewage and garbage disposal is again the responsibility of the individual. Many families have chemical toilets and other families use simpler arrangements such as covered pails. Burnables are incinerated, and waste water is dumped in the vicinity of the home. Other garbage, particularly cans, seal blubber and other animal offal, are, along with sewage, deposited on the ice near the shore. During break-up, this ice moves out and ultimately the refuse sinks. After the snow leaves there is a general clean-up around the homes. In summer garbage is apparently dumped in the bay. In general, sanitation is about as good as can be expected under the circumstances, mainly because most of the people appear to be conscious of its value and necessity. Any radically different arrangements could require considerable and possibly unwarranted expense.

Electricity

Electrification has not yet come to Sachs Harbour on a community-wide basis. The D.O.T., R.C.M.P., and R.C. Mission all generate power for their own use. The D.O.T. station operates two diesel generators whose maximum potential is 25 kw., although the normal output is about half of this. Two 100 kw. generators are expected in 1965, and one of the old ones will be kept as a standby. The R.C.M.P. has a 110 volt generator for their radio, and a 32 volt battery storage unit operated only in winter. The R.C. Mission has operated a 12 volt wind-charger, and is expecting a 110 volt plant. Some Eskimo families operate small appliances such as phonographs on small dry-cell batteries. Several rumours are current concerning future plans for the electrification of the village, but no definite information was forthcoming from either Fort Smith, Inuvik or Sachs Harbour as of the spring of 1965. Some families have expressed a desire for electricity, and are willing to pay for it. In any case, many families pay \$90 to \$100 for naphtha to operate lanterns in the homes during the dark months.

Perishable Food Storage

There are several frost cellars in the village. Most are small and individually owned. One or two larger communal cellars have been or are being dug. Total capacity is not known, but is apparently sufficient for present needs.

Heavy Equipment

The Department of Transport has at Sachs Harbour one D2 and two TD15 tractors, a grader, a self-loading scraper trailer unit, a one-ton fourwheel drive dumptruck, a bombardier, and a small compressor.

Outside Agencies

Sachs Harbour was merely a winter encampment until 1953, when the Royal Canadian Mounted Police established a detachment there. It was, and continues to be, staffed by two men, both of the rank of constable. The police at Sachs have several duties beyond that of policing the island, for indeed there is virtually no criminality there. They are responsible for the issuing of all fur and game export permits, and for administering first aid as there is no doctor or nurse on the Island. Also, because there is no resident Northern Service Officer, the Department of Northern Affairs has by agreement delegated the responsibilities of the day-to-day administration of the settlement to the R.C.M.P. The police are therefore responsible for the issuing of relief, the retailing of heating oil, and for other such matters pertaining to the general welfare of the people. However, major patrols are no longer made as the outlying camps have not been occupied since 1961. Travel is limited to short visits to the nearby sealing and fishing camps in spring, and for the purpose of seal hunting for dog food.

The Department of Transport established a meteorological and communications station at Sachs Harbour in 1955. The communication functions of the station are described in a subsequent section. Upper atmospheric conditions are measured twice daily, and eight synoptic observations are also taken each day. These latter include temperature, precipitation, pressure, winds, visibility and dewpoint. The number of hours of bright sunshine is also recorded. Data are obtained on freeze-up, break-up, and the weekly ice thickness in the harbour. Snow depth and density are measured twice monthly, and in summer the depth of thaw is recorded on the tundra each week. The normal staff at the station is seven men, consisting of three meteorological observers, two radio operators, a cook and a maintenance man. Because of the nature of their jobs, and the distance of the station from the village (one and a quarter miles), these men play a relatively minimal role in daily community life. However, movies are shown at the station once a week, which most families attend, and parties are given at the station for the whole community at such times as Christmas, New Years and Easter. Also, casual employment opportunities exist at the station for one or two Eskimos in summer.

The only church at Sachs Harbour is the Roman Catholic Mission, despite the fact that the great majority of the people are Anglicans. The mission, built in 1962, is the most recent one established by the Oblate order in the western Arctic. In the summer of 1965, a newer and larger building was being erected to serve as both a chapel and a community hall.

On the whole, relations between whites and Eskimos are, and have been, good, although a few whites have on occasion engendered frictions both between the two groups and among themselves. In many ways, the Eskimos have become quite dependent on the existence of the white community at Sachs, not only for their official duties but also as they provide facilities for recreation and entertainment. This dependence is mainly, however, upon the jobs and institutions, rather than upon the individual members of the white community. It is notable that at Sachs, no white person presently there has been there for more than three years (one individual formerly with the D.O.T. had been there for five years). Most whites are there for only a year or two, and in the eyes of the Eskimos, they may come and go, be liked or disliked, but the job they fill remains after their departure, and its functions will continue regardless. Because of the newness of Sachs, there is no white person there who can claim long-standing membership in this community whose members have for the most part grown up together. In this respect the community is unlike others in the western Arctic where a missionary or trader may have been with the people for twenty years.

Transportation

This section discusses commercial air and sea transport to Banks Island, and freight rates. Mention of local travel by dogsled or small boat is made elsewhere.

Water

The history of commercial water transportation to Sachs Harbour is relatively recent, as prior to the arrival of the R.C.M.P. and D.O.T., local Eskimo families owned schooners and brought their supplies in annually. Now, however, the entire community has come to depend on the annual supply ship.

Sachs Harbour is generally visited once a year by the M.V. "Banksland," a steel-hulled ship of 440 tons, operated by Northern Transportation Company Limited, a crown corporation. The year 1964 was exceptional in that ice conditions prevented the scheduled trip of the "Banksland" to Sachs and an airlift was subsequently necessary.

The maximum known depth of Sachs Harbour is twenty fathoms (Dept. Mines and Technical Surveys, Cdn. Hydrographic Service, 1961:75; refer to Supplement no. 4, 1965: 24), however the sand bar extending across its mouth prevents the entrance of vessels drawing more than eight or nine feet, or under certain conditions, seven feet. This harbour provides fit shelter only for schooners. The "Banksland" anchors outside the harbour and goods must be lightered ashore. The "Banksland" can find shelter behind Kellett sandspit if necessary when in the area, ice conditions allowing.

Air

Since the construction of the airstrip, on the bluff behind Sachs Harbour, there has been virtually no season when the settlement has been isolated. The strip is not used in winter; rather an ice strip is prepared in the harbour, but it is usually ready for use in June so that landings can be made during break-up. In summer, Sachs is accessible to wheeled or float planes, and the airstrip can be kept serviceable through freeze-up and on until the ice strip is again ready. The airstrip, which is neither paved or gravelled, is at present about 3750 by 180 feet, and it is proposed to enlarge it to 5000 by 300 feet. It is not kept clear through the winter due to a lack of adequate equipment to do so.

The following figures indicate the frequency of landings in the last two years, and include wheeled, ski and float arrivals:

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
1963						7	5	13	4	2	0	1
1964	2	3	6	3	1	5	13	9	5	6	2	15
1965	3	4	7	3	6							

The total of 125 landings in two years works out to slightly more than one a week on the average, although it may be seen that arrivals are far more frequent during open water than in winter. December of 1964 provides the exception, as due to the failure of the sea lift (noted above), an airlift was organized to transport essentials to the island.

Several Inuvik-based carriers fly to Sachs Harbour on charter. Connelly-Dawson Airways has a class three franchise between Inuvik and Sachs. Nominally the company flies to Sachs twice a month, but in fact does so whenever sufficient freight accumulates.

Freight Rates

The following table indicates the present rates to Sachs Harbour via normal supply routes.

Freight routed from Edmonton via Waterways and Inuvik obtains a through rate of \$7.10 per hundredweight. This is the commonest routing and this rate is the most useful for calculating costs to Sachs Harbour.

TABLE 6 – Freight Rates

Rail (per hundredweight) – Edmonton-Waterways	\$1.40
Water (per hundredweight class 5 rate) – Northern Transportation Co. Ltd.	
To Inuvik from Waterways	\$3.00
Hay River	2.00
To Sachs Harbour from	
Waterways	\$5.70
Hay River	4.75
Inuvik	3.70
Tuktoyaktuk	3.00
Air	
Connelly-Dawson Airways	
Inuvik-Sachs Harbour	
air freight	\$0.30/lb.
passenger fare	\$87.00 single, \$157.00 return
Pacific Western Airlines	
Edmonton-Inuvik	
air freight	\$0.25/lb. (\$6.25 minimum)
passenger fare	\$137.00 single

Communications

Radio Facilities

The major communications station on Banks Island is the Department of Transport radio station at Sachs Harbour, and in addition the R.C.M.P. and the R.C. Mission also have transmitters. Table 7 indicates the frequencies operated and the power of each of these transmitters.

The D.O.T. maintains an aircraft beacon on request, given six hours notice. This beacon has a strength of only 25 watts but it is hoped that this will be increased to 400 watts this year. Teletype is also being experimented with and may be installed at the D.O.T. station in the near future. A ham radio set is operated at the station (call sign VE8MO). In general, radio reception at Sachs is excellent.

Commercial Traffic

Commercial traffic is handled by the D.O.T. radio station. Government traffic between Inuvik and Sachs Harbour is handled free of charge. To all other traffic, the following rates apply:

	To Inuvik	To Edmonton
Full Rate (first ten words and each additional)	\$0.90 + .5	\$2.30 + .13
Day Letter (first fifty words and each ten additional)	-----	\$2.70 + .54
Night Letter (first fifty words and each ten additional)	\$0.90 + .14	\$2.30 + .42

TABLE 7

Radio Communications, Sachs Harbour					
Operator	Call Sign	Strength	Frequencies		Schedules
			Operated	Purpose	
D.O.T.	CHS22	300w. ¹	4270 ²	D.O.T. traffic	All frequencies monitored 16 hours daily. Daily schedule maintained on
			4703.5	air-ground	
			5245	commercial	
			5597.5	D.O.T. traffic	
			5680	air-ground	
			5940	marine (summer only)	
R.C.M.P.	XJD58	100w.	4455	H.B.C.	Twice daily with R.C.M.P. Inuvik on 4785.
			4785	R.C.M.P.	
			5680	air-ground	
			7780	immediate area use.	
R.C. Mission	CJS265	65w.	4356	R.C. Mission	Twice daily. Morning sched- ule with Western Arctic Missions, and evening sched- ule with the Mackenzie Vicariate headquarters, Fort Smith.

¹To be increased to 2000 watts in 1965²Transmit only

Broadcasting Stations

CHAK at Inuvik, of the CBC network and operating at a strength of 1000 watts, is certainly the most popular station reaching Sachs Harbour, due to its many features of regional interest. These include local news broadcasts, programs in Eskimo, and particularly a program of personal messages for people otherwise out of contact. Reception of this station is generally excellent. After CHAK signs off at midnight, the people frequently find they have a wide choice of Western Canadian stations, or even stations from eastern Canada or the U.S., which they can receive with a fair degree of clarity.

A T.V. set at the D.O.T. station is on occasion able to receive an entire program with only minor disturbances from such places as Edmonton and Lloydminster.

Mail

A non-accounting post office has been maintained at the D.O.T. station since 1955, the duties of postmaster falling to one of the regular employees. It handles a considerable volume of C.O.D. business, and has this year been granted authority to issue money orders up to a value of \$15.00. Connelly-Dawson Airways in Inuvik has the contract for mail to Sachs Harbour; however almost all incoming flights bring and deliver mail as a matter of courtesy. This means that mail service is quite frequent during open water season, and generally comes at least once or twice a month in winter.

Housing

The Eskimo housing situation at Sachs Harbour is, compared to any other western Arctic community, excellent, although this development is quite recent. The local Eskimo trader, who has resided at Sachs Harbour longer than anyone else, has had a frame house for many years, however, most of the other structures were built (or brought from Tuktoyaktuk) within the last five years. Previously most families had lived in snow-banked frame tents. Only two such frame tents now remain, and neither is occupied the year around. One is used as a summer residence, and the other is occupied occasionally by a single man. One other single man, residing at Sachs under unusual circumstances (previously discussed), lives the year around in a small tent, at no fixed location. Excluding these structures, there were sixteen houses occupied by Eskimo families during the winter of 1964-65. Details of these houses may be found in Appendix A, and are summarized in Table 8.

Of the sixteen houses under discussion, one is a frame tent finished with plywood on the inside; one is a large prefabricated house owned by the R.C.M.P. and occupied by their Special Constable; and two are rigid-frame plan 319 houses (Department of Northern Affairs, Engineering Division, 1964:3) occupied on a welfare basis (see Ch. VII).

TABLE 8 — Eskimo Housing, Winter 1964-65.

Families	17
Individuals	74
Adults	39
Children	35
Houses	16
Ave. no. persons per house	4.6
Median house age	3 years
Ave. no. rooms per house	1.9
Ave. no. persons per room	2.6
Ave. floor space per occupant	67 sq. st.
Houses providing less than 50 sq. ft. floor space per occupant	25%

The remainder are of frame construction. These were built from imported materials by the owners, and consist essentially of 2 x 4 studs and beams, plywood sidings inside and out, and glass wool insulation,

usually of four inch thickness. Generally they are of sturdy construction and provide adequate shelter, although a few are overcrowded. Window space is sometimes less than might be expected in southern conditions, in order to minimize heat loss. Most have porches of frame-plywood construction, while others build porches of ice blocks around a wooden frame in winter. In addition, most families have frame tent warehouses next to their homes, in which the bulk of the capital equipment and imported supplies of food and dogmeal are kept. One individual even maintains a frame tent "garage" for his mechanized toboggan.

The houses are frequently quite well furnished, and in most cases are kept clean and neat. All but five homes have more than one room. Most kitchens contain an oilstove and a chrome set, and many have prefabricated cupboards and shelves, plus many of the non-electrical appliances ordinarily found "outside". Kitchen sinks and hand basins are common, although as there is no plumbing they drain directly into buckets below their outlets. The front room may also be furnished with upholstered chairs and chesterfields, and possibly coffee tables. Bedrooms often have chests of drawers, and for the most part the homes are certainly not bare or mean in their appearance. It is true that these standards are not universal at Sachs, but they are not even common elsewhere.

The problem of overcrowding is much less severe than in other western Arctic communities. Only 25 per cent of the houses at Sachs do not meet the suggested minimum of fifty square feet per occupant (Department of National Health and Welfare, Information Services Division, 1960, p.67), and of these four only one or two are likely to remain by the autumn of 1966, as several families plan extensions or new construction.

Housing, Sachs Harbour, May 1965.



Most families lived in frame tents similar to this one until a few years ago. Note the blocks of snow, now melting, which served as insulation during the winter. This house was only periodically occupied during the winter of 1964-65.

Thus in terms of space, 75 per cent of the homes may be considered adequate. This compares with only 15 per cent at Coppermine and 20 per cent at Holman, in 1963 (derived from Usher, 1965: 101-2), and 17 per cent at Cape Parry and 44 per cent at Tuktoyaktuk in 1962 (derived from Abrahamson, 1963: 100-04).



Housing, Sachs Harbour, May 1965

Almost every family now lives in frame houses such as these. Note the ice porches which were used during the winter. To the left is a frame tent which serves as a warehouse.

Partly because overcrowding is so much less severe, and because the houses are comfortable, better ventilated and reasonably sanitary, the practice of living in a summer tent from May to September is not common at Sachs. It should, however, be pointed out that the problem of overcrowding is alleviated by the fact that school age children are in Inuvik for ten months of the year. Potential overcrowding could be realized if a day school were erected at Sachs, as there would be an automatic increase of one-third to the over-all population, and in some families the proportion would be greater. This is not an insoluble problem, however, and should not deter considerations for a school at Sachs Harbour.

Commercial heating oil is used almost exclusively for home heating, although one individual gathers driftwood for about half of his fuel needs. Heating costs are an important part of the family budget at Sachs Harbour. As noted, a house requires twice as much fuel as it would in southern Canada, and because fuel costs are almost four times as great (\$.70 per gallon at Sachs), heating costs run about eight times that of a similar structure in the Provinces. The average consumption of heating oil per home during the 1964-65 year appears to have been about sixteen or seventeen drums; that is at least \$500 worth.

Heating oil is dispensed in 45 gallon drums. It is shipped to Sachs by boat in summer from Norman Wells, and is distributed to the Eskimos by the R.C.M.P. on behalf of the Department of Northern Affairs. The R.C.M.P. and the D.O.T. also receive their fuel supplies in drums, but a bulk fuel tank may be built at Sachs this year. Possibly this will reduce the local price of heating oil, as bulk distribution has already done in other Arctic coast settlements. Homes are heated by oilstoves and/or space heaters.

CHAPTER V

THE RENEWABLE RESOURCES OF BANKS ISLAND AND THEIR EXPLOITATION

The basis of the economy of Sachs Harbour is the harvesting of animal resources. In this chapter we shall discuss the types of economically significant animals, their availability, and the means of harvesting them. Aspects of land use, seasonal activity, and food requirements will also be considered.

Fine Fur Bearers

The chief fine fur bearer on Banks Island is the white or Arctic fox (*Alopex lagopus*). Occasionally, blue fox, a colour phase of the white fox, are taken, and red or cross fox (*Vulpes vulpes*), which are rare on the Arctic Islands, are obtained very infrequently. This discussion will therefore be restricted to the white fox.

The white fox is a scavenger and under certain conditions may be found in association with polar bears, relying for food on carcasses left by them. The lemming is a major food source, and as is well known, fox populations are cyclical in accordance with the lemming cycle.

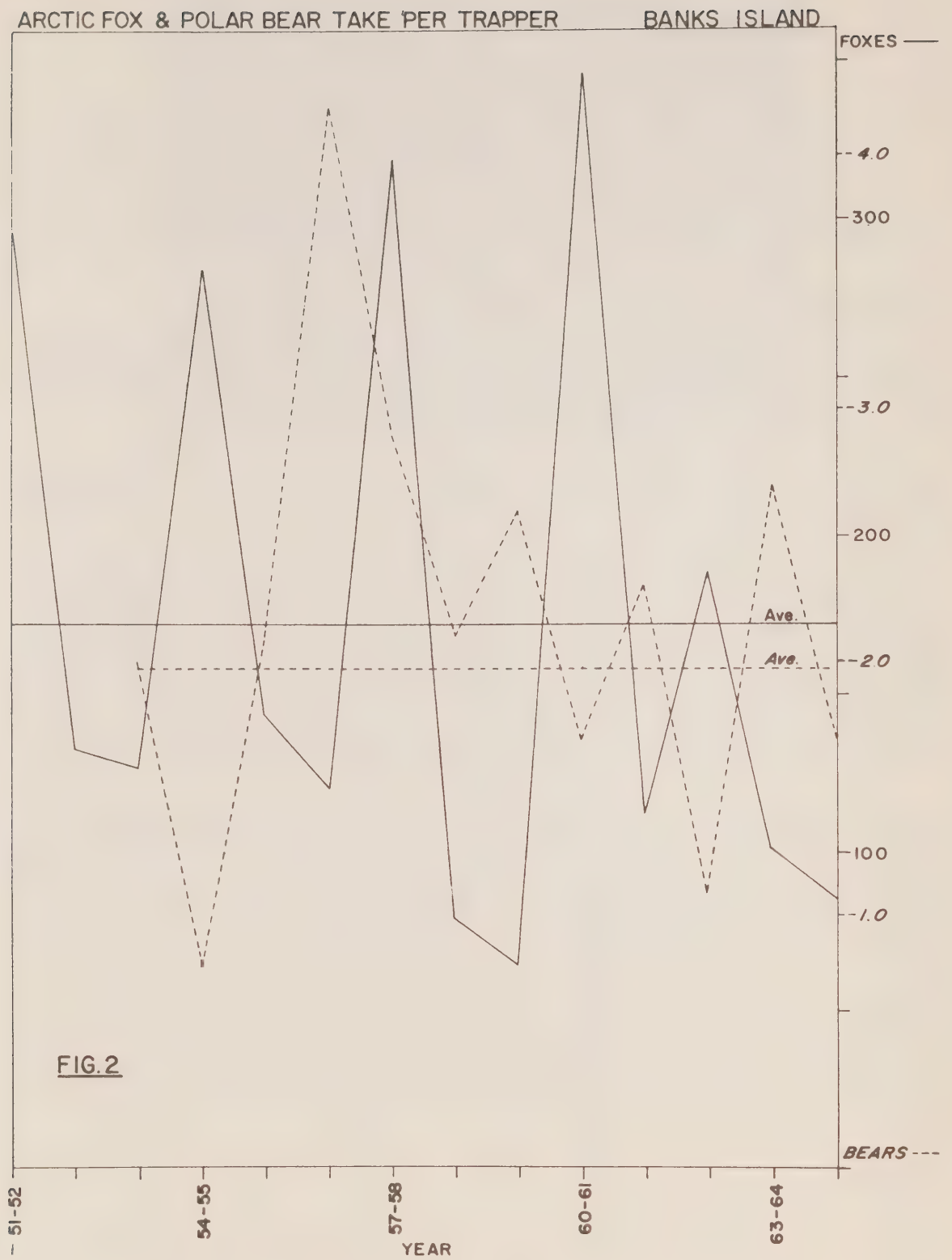
Banks Island is considered one of the best, if not the best, trapping areas in the entire North American Arctic. During the 1930s and 40s, individual catches of 700 or 800 foxes in good years quickly established the Island's reputation as a trapper's El Dorado. Although such takes have not been matched in the last fifteen years, the reputation persists, although possibly to a greater degree among whites than among Eskimos. The magnitude of the catch since 1951-52 is presented in Table 9, and Figure 2 demonstrates the cyclic nature of the fox population in terms of per trapper harvests.

TABLE 9— Annual Fox Take, Banks Island, 1951-65.

Year	No. of foxes	No. of trappers	Ave. catch per trapper
1951-52	2657	9	295
1952-53	1198	9	133
1953-54	1274	10	127
1954-55	5700	20	285
1955-56	1006	7	144
1956-57	500	5	100
1957-58	3510	11	319
1958-59	1200	15	80
1959-60	850	13	65
1960-61	5533	16	346
1961-62	2155	19	113
1962-63	3582	19	189
1963-64	1836	18	102
1964-65	1555	18	86
Averages	2335	13.5	172

Sources: 1951-55, McEwan, 1955:31; 1955-56 and 1957-58, McPherson, 1959:29; 1956-57 and 1958-64, R.C.M.P. Annual Detachment Reports: Game Conditions; 1964-65, writer's field research.

Traditionally, trapping has taken place on the west side of the Island, between Kellett and Bernard Rivers. The De Salis and Jesse Bay areas were never heavily trapped, partly because of discontinuous



occupance and partly because the Copper Eskimos who predominated there did not devote the same attention to trapping as did the western people. The east coast is reputed to be a poorer trapping area than the west, but possibly this supposition merely reflects occupance coincidental to poor years and/or differential trapper effort. In any case, western Banks Island is a very good trapping area.

The trapping season extends from November 1 to April 15 next following. Trappers go out in pairs or singly, travelling by dogsled. On the first trip, which is ordinarily made in the first part of November, trappers often set only a part of their line. On the return trip, which is ordinarily made in the first part of November, trappers often set only a part of their line. On the return trip, they may check their lines, but ordinarily only a very few foxes are brought in from the first trip. On the second trip, the remainder of the line is usually set, and of course previously laid traps are checked. Subsequent trips, of which there may be three or four, are for the purpose of checking and resetting traps, while on the last trip in April, all traps must be taken up or sprung. Some trappers cache a part of their traps somewhere along their line, to reduce their sled loads. They may also cache dogmeal and a drum of naphtha along the way.

Several variables are involved in trapping land use. Trapping partnerships (or the lack of them), appear to be by individual preference and mutual arrangement. Most trapping partnerships are between close relatives. They apparently continue over several years, but sometimes change. Partnership simply involves travelling and camping together. Each man takes his own dogteam, and each sets his own traps. This may be done side by side, or alternately, or in any agreed manner, but each trapper collects only what is in his own traps: there is no sharing of the proceeds of mutual effort.

Maps 5 and 6 indicate the general area of land use over the last three trapping seasons. The choice of route by the individual is based partly on tradition, partly on "hunches", and partly on current conditions. Many trappers have run the same lines for many years. Some will change their routes because they think they might have a better chance in another area. The seasonal outlook usually influences the ultimate length of the line. Once the line has been set for the season, it usually remains in the same place. In 1962-63, however, a few trappers pulled up their lines along the coast in mid-season and reset them inland, when it turned out that those with lines inland were getting unusually large catches.

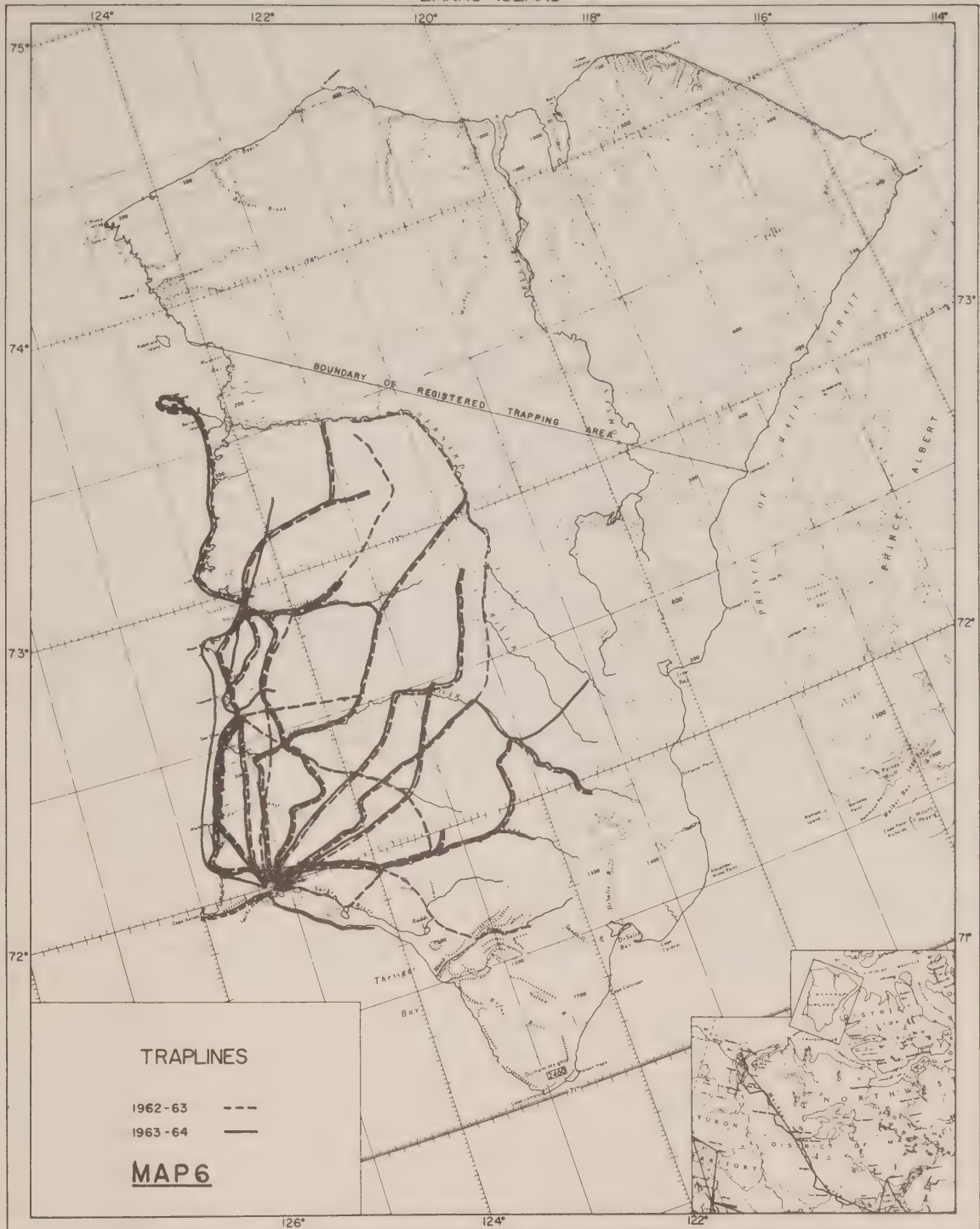
The area between the Bernard and Kellett River is traditionally the most heavily trapped; especially that part of it south of the Storkerson River. The question arises whether this area may be over-trapped at present. Some trappers state that the bulk of their catch is taken at the far end of their lines, and one man hoped to build a trapping cabin on the west coast so that he could run lines further north. The first day's travel from the settlement is generally considered lost time so far as trapping is concerned. Certainly there is a very high trap density along the west coast between Kellett and Storkerson Rivers, and between Sachs Harbour and Egg River.

It may be noted that the southwestern part of the Island is seldom trapped. In the last couple of years, an older man sent to Sachs from the east has trapped desultorily along the southwest coast, mainly because, being unfamiliar with the area, he finds it an easy route to follow. In 1962-63, two men who have since moved to Holman trapped toward Masik Pass, as they were familiar with that area. Ordinarily the Masik River area is not trapped, because it is characterized in the minds of local residents by strong and persistent winds. In the spring of 1965, the writer noted far more foxes in the upper Masik River area than at any other place visited. This is of course, not necessarily typical, but it may be indicative of a high fox population in that region due to relative freedom from human predation.

Traplines are usually linear, radiating from the settlement, but some are circular, so that the trapper does not retrace his route home, and some may have loops or spurs at the end. Some trappers also maintain day lines near the settlement, which they can visit in one day. Two commonly used routes for day lines are along the coast, one westwards and the other southeastwards from Sachs Harbour.

The total area trapped on Banks Island apparently does not vary much from year to year. In good years it tends to expand, and in poor years it will contract. For instance, the big bend area of the Bernard River was trapped in 1962-63, the most productive year mapped, but since then trappers have not seen fit

BANKS ISLAND



Scale: 1:50,000
 0 10 20 30 40 50 60 70 80 90 100 Kilometers
 0 10 20 30 40 50 60 70 80 90 100 Miles
 SCALE

to extend their lines so far. In former years, when such camps as Storkerson and Sea Otter were occupied, the trapped area was not appreciably larger than it has been recently, but the distribution of lines and trap density was much more uniformly spread. Although in a few instances, men trapped as far north as the Gore Islands, the area north of Bernard River was seldom used. Individuals have also trapped out of De Salis and Jesse Bays, but never intensively, nor were their lines very long.

Generalizing on the three year period 1962-65 (see Map 9), 10,017 square miles are utilized for trapping. This represents 37.1% of the land area of Banks Island, but if we consider that offshore trapping is included in the first figure, probably just less than one third of the Island and the adjacent fast ice is effectively trapped. The group registered trapping area is 15,336 square miles in extent, or if we arbitrarily include a five mile offshore limit, 17,845 square miles, 56.7 per cent of this area is effectively trapped.

The trapping area extends about 120 miles north of Sachs Harbour and about 80 miles east of it. Except for very slight extensions to the mouth and headwaters of the Bernard River, which would be possible and may even occur in peak years, it seems likely that the trapping area outlined in Maps 5 and 6 represents close to the maximum areal utilization possible, given present means of travel (for further discussion see below). Utilization of the southern tip of the Island seems unlikely; rugged terrain makes overland travel difficult, and the fast ice south of Masik River is subject to calving at any time. Eastward extensions to the headwaters of the Big and Kellett Rivers, and even to the east coast, might be possible, but again the divide presents more rugged country, and many people are not familiar with this area.

It would seem, then, that the exploitation of other areas must take place from bases other than Sachs Harbour. For reasons outlined in Chapter III, however, this seems unlikely. A base camp at De Salis Bay, for instance, would not in any case radically increase the total area trapped. The greatest unused areas are in the north and east-central parts of the Island, which are the most inaccessible. One individual has expressed interest in building a winter trapping cabin on the west coast which would allow him to trap the northwestern area, but it is uncertain whether this desire will become action. Another man believes tremendous potential to exist in the Mercy Bay area, and has hopes of getting there one winter in partnership with another person. Such a venture, however, would require an air charter in the spring and fall, and naturally would involve certain risks, financial and physical. Whether the increase in fox takes would be greater than the extra costs incurred must for the present be a matter of conjecture only.

Some indices of trapping effort are given for each trapper in Appendix B, and are summarized in Table 10 below.

TABLE 10 – Indices of Trapper Effort, Banks Island, 1964-65 for 17 Trappers.

	Average	Range
Traps set	400	50-700
Dogs used	9	6-11
Length of line, return (miles)*	210	100-290
Trapping trips*	5	3-6
Total days on line	59	29-99
Ave. trip length (days)*	10	9-16
Total travel for season (miles)	1000	400-1580
Ave. travel per trip (miles)*	177	100-260
Ave. miles per day*	17	10-23
Total foxes taken	91	26-175

*Does not include day lines.

Certain differences are apparent when compared with other western Arctic communities (see Abrahamson, 1963 and Usher, 1965). Sachs Harbour trappers have more traps, use more dogs, run longer lines, spend more time on their lines, and needless to say, get more foxes. These differences are

considerable. It is not meant to imply, however, that trappers in other settlements need only put forth greater effort to increase their takes. Most other regions are poorly stocked and over-trapped. Rather, the above figures demonstrate the effort that will be made in a well-stocked area, for not only does Banks Island have a reputation of being a top fox region, but its trappers are by many considered as being among the finest on the Arctic coast. Sachs Harbour men take great pride in their trapping and hunting abilities.

With more and better data, a factor analysis of the variables of trapping effort might usefully be made. Several pairs of factors were graphically correlated with no clear results. For example, such factors as length of trapline, total travel, number of trips and number of days spent on the line showed only the most general correlation with the number of foxes taken, and there were many anomalies. The clearest, but by no means perfect, correlative factor to number of foxes taken appeared to be the number of traps set. Possibly another factor affecting trapping effort is the time of year that the peak catch occurs. In 1964-65, almost 70 per cent of the total catch was taken on the last two trips (see Fig. 3 and 4). Sometimes, on the other hand, the catch peaks early in the season. It may be that an early peak will result in more total effort during the year, as lines are set partly in accordance with early season performance.

One matter which must be mentioned is that of trapping losses; that is, the difference between the number of foxes actually trapped and the number of pelts ultimately marketed. The most frequent cause of loss is that unless a fox, once caught, freezes to death fairly quickly, it can chew its leg off and so escape from the trap. A fox so crippled must certainly have a reduced life expectancy, and so such losses place an added mortality factor on the fox population with no economic return to the trapper. Less frequently, a trapped fox will be eaten or mutilated by another white fox, and of course, this problem of damage was much more severe when wolves used to be prevalent. In some cases, a struggling fox may actually tear the trap loose, and thus both the fox and the trap are lost. In 1964-65, over 200 foxes, or about 15 per cent of the total catch, were lost, mostly by escaping. Apparently the loss rate due to escaping is higher in spring when the foxes can live longer in the traps. Therefore, the loss rate for that year may have been higher than usual, as the catch peaked in March and April. Possibly annual losses range between 10 and 15 per cent of the catch, which may represent an economic loss of perhaps \$300 per trapper in an average year. Presumably such losses could be reduced if faster and more frequent trapping trips could be made.

To conclude this discussion of trapping, it is necessary to comment on the present status of the Island as a trapping area, and on its future. Certain variables are not known, so that remarks made here must be considered tentative only. We do not know the total fox population or the sustainable yield on a long term cyclic basis, which makes planning difficult. Also, some knowledge of the extent of the home range of a fox is necessary before an accurate assessment of hunting pressure in areal terms can be made. The regularity of the three year cycle has been interrupted recently, but as this may be expected periodically in any case, it is difficult to attribute a direct cause to this.

Certain indicators do exist, however. It seems likely that trapping intensity has reached a peak in the last five years or so. It may be that trapping intensity has reached maximum advisable limits in terms of sustained yield. Many trappers believe that the wolf control program (see below) has had a deleterious effect on fox numbers, because there are fewer carcasses from wolf kills for foxes to feed on. There are, however, a variety of food sources for foxes on the Island, and substitution may act to prevent starvation upon the loss of any one source. Obviously trapping intensity varies within the utilized region; as mentioned, there are very high trap densities in some areas, and these appear to have become relatively unproductive. The Sachs Harbour trappers are well aware of the consequences of over-trapping at such places as Tuktoyaktuk, and have expressed concern over the possibility of their own trapping area becoming "swamped" with immigrating trappers. This fear was an important factor in the creation of the Trappers' Association. The probable stability of the community of Sachs Harbour has already been noted, and the writer suggests that this is a desirable development for the wellbeing of the trapping grounds, and, as a result, the local economy. The encouragement of emigration to Banks Island from the mainland therefore seems inadvisable at this time.

The arctic hare (*Leptus arcticus*) is of very minor economic significance. The animal is said to be abundant in the Masik River valley in the late winter. Possibly the animals move seasonally, as none were

seen there by the writer during the third week of May. Occasionally special trips are made to obtain hares if food is short; in 1965 one man got sixty in the Masik valley. They are used primarily as food, for dogs or humans. The fur is used locally for childrens' parka trim, and pelts are sometimes sent to relatives on the mainland in exchange for whitefish. That food value exceeds fur value is evidenced by the fact that unskinned hares were observed being fed to dogs.

Wolves

In the late 1940s and early 1950s, wolves were a nuisance to trappers on Banks Island (the previous abundance of wolves is not known). Losses of foxes in traps to wolves reached serious proportions. In 1952-53, 315 foxes valued at \$2,835 were destroyed, and two years later nine trappers alone lost 800 foxes between them (McEwen, 1955:35). A single wolf might follow a trapline for miles, systematically destroying all caught foxes. In the spring of 1955, E. McEwen of the Canadian Wildlife Service conducted a pilot study of wolf control on the Island, and subsequently recommended a supervised wolf poisoning program for the protection of both foxes and caribou (ibid: 46, 55). The poisoning program commenced in the spring of 1956, and nine wolves were destroyed. Six wolves were destroyed in the spring of 1957, eleven in 1958, and seventeen in 1959 (Current Files, Game Management Service, Government of the N.W.T.). The poisoning program was subsequently discontinued due to the almost complete absence of wolves. There have been no substantiated trapline losses to wolves since then, and only on two or three occasions have wolves or signs of wolves been seen. These may have been strays from Victoria Island, or from the northeastern part of Banks Island, where wolves may still exist. The program was certainly considered a success by the Eskimos. Despite local suspicions that there may be an association between the wolf control program and the subsequent string of poor fox years, all state that they prefer this to the frustration and disappointment that comes from seeing the visible evidence of wolf predation for mile after mile on the trapline.

Polar Bear (*Thalarctos maritimus*)

Banks Island is the most productive area for polar bear in the western Arctic, probably because of the combination of suitable ice conditions and abundant food. Table 11 indicates the annual polar bear kill since 1953-54.

TABLE 11 — Annual Polar Bear Take, Banks Island, 1953-65.

Year	no. of bears	no. of hunters	ave. take per hunter
1953-54	20	10	2.0
1954-55	15	20	0.8
1955-56	15	7	2.1
1956-57	21	5	4.2
1957-58	32	11	2.9
1958-59	31	15	2.1
1959-60	34	13	2.6
1960-61	27	16	1.7
1961-62	43	19	2.3
1962-63	20	19	1.1
1963-64	48	18	2.7
1964-65	30	18	1.7
Averages	28	14.3	1.96

Source: R.C.M.P. Annual Detachment Reports, Sachs Harbour: Game Conditions.

The annual per hunter take is by no means constant (see Fig. 2 and 3). There are several possible explanations for this. It might be thought the curve is indicative of actual population. There is no indication, however, that polar bear populations are cyclical. More reasonably, the curve may be indicative of the availability of polar bear within the hunting range. For example, at Baillie Island on the mainland, one family which has resided there for many winters obtained 19 polar bears in the winter and spring of 1965. They maintained that this unusual take was made possible by the previous summer's ice conditions. Floes remained in the area throughout the open water period, and so, accordingly did the bears, so that they were plentiful throughout the subsequent winter. It would be of interest to correlate bear takes and ice conditions in the Sachs Harbour area, if adequate information could be obtained for the latter. Certainly this notion is in accordance with Harington's findings. He has stated that "It is extremely doubtful that the number of polar bears has oscillated greatly throughout Northern Canada, although basic information on the actual population of the region is unknown. It cannot be denied, however, that some bear seasons are "better" than others—on a regional level at least. Some factors contributing to higher survival and reproduction are suitable combinations of ice, open water, and land, adequate prey (mainly seals) and forage." (Harington, 1961:65).

Perhaps the most important factor, however, is a rather interesting economic one. Fig. 2 shows a rough, but generally identifiable inverse variation between individual fox and polar bear takes. In ten out of twelve years, when fox take is below average, bear take is above average, and vice versa. There seems a good possibility, therefore, that bear hunting offers a substitute activity when fox takes are low, so that takes of each species may generally be expected to vary inversely. Furthermore, because realized income from maximum trapping effort is generally higher than from maximum bear hunting effort, it is suggested that bear takes are the dependent variable in the relationship. The fact that Holman Islanders are known to make special bear hunting trips to Prince of Wales Strait when trapping is poor is further evidence of this proposition (Usher, 1965:158). It remains to be seen whether this notion is valid in other parts of the Arctic, and for more extended periods of time. If it is true, it suggests that hunter pressure on the polar bear population is a function primarily of fox cycles, with the curve distorted to some degree by local environmental conditions. Price per bear pelt, which has been steadily rising over the years appears not to be an important factor. It is tentatively suggested here that Eskimo takes of all fur bearers, whether fox, bear or seal, tends to be a function of animal availability rather than fur market conditions, except when prices are extremely depressed.

Map 7 shows the location of all polar bear kills during the year 1964-65. This distribution is understood to be fairly typical. Sometimes bears are taken on the trapline when seen, but when special bear hunting trips are made, they are either to Cape Kellett or to Nelson Head. Commonly these trips are taken near the end of just after the trapping season. In 1964-65 the peak months for bear kills were March, April and May (see Fig. 4), and this is understood to be representative. In the spring of 1965, three parties, consisting of one to three members, made special hunting trips to Nelson Head, with varying success. One party was forced to abandon three bears, including the pelts, when the ice began to move. This was the only known instance of complete waste that year, although generally when bears are taken far from the settlement, not all the meat is taken home. Possibly two thirds of all bear meat taken was used, mostly for dog food. On such hunting trips, it is not uncommon for hunters to set their dogs loose when a bear is sighted. The dogs are meant to nip at the bear from behind, which makes the bear halt, so that it is an easy target for the hunter. Clearly, well trained and agile dogs are required, and many men have lost otherwise good sled dogs which were not quick enough to get out of a bear's range when it turned to attack.

Most bears are killed with rifles, although a few at Cape Kellett are taken with set guns. These guns, usually old shotguns, are set in a pit in the snow, with bait wired to the trigger, and then covered with a snow block. The bear smells the bait, breaks into the pit, and by moving the bait pulls the trigger, so that he will generally be shot in the head. One or two individuals own large leg traps for bear, but these have not been used in recent years. Because present legislation prohibits the taking of female bears with cubs, any trap has the disadvantage of being unselective in its victims.





Mr. Frank Kudlak has just killed a polar bear. The bear, a female, was rather small, measuring 4'11" from nose to tail.



The bear has been skinned and butchered. Only a portion of the meat could be taken home on the sled. The skin was sold to the local trader for \$100, and subsequently auctioned in Vancouver.

Sometimes a hunter need not travel at all to get a bearskin—any bear so unfortunate as to wander into the vicinity of the settlement inevitably ends as a rug.

As mentioned, bears are taken anywhere they are seen, and in past years kills have been made at points along the west coast in the vicinity of traplines, and, more rarely, they have been taken inland. Generally they are taken in the region outlined in Map 9., which measures just under 1200 square miles.

The area around Nelson Head is sometimes used by Holman hunters also, and this was understood to be the case in the late winter of 1965. The total take from southwestern Banks Island is therefore probably higher than indicated in Table 11.

There are no available estimates of total bear population in the area, nor does information appear to exist on the movements and lifetime range of polar bears. It is thus impossible to conclude anything about the relation of present kills to sustainable yield, except that there appears to be no immediate danger inasmuch as there is no evidence of decline.

Ungulates

Caribou (*Rangifer pearyi*)

A resident herd of caribou on Banks Island has traditionally formed the basis of country food taken for human consumption. The typical polar caribou (*Rangifer pearyi*) is somewhat smaller than the barren ground caribou of the mainland (*R. arcticus*) and therefore provides less meat per animal. The weight of the edible portion for humans is not known, but may be about 60 lbs.

Several estimates have been offered of the summer population of the herd. Stefansson suggested a figure of 2000 to 3000 (1921:225), while Manning and Macpherson estimated about 4000 for 1952-53 (1958:65). In 1951 there was possibly a great population increase and certainly a subsequent die off (McEwen, 1955:46 and Macpherson, 1959:27). McEwen believed the die off to be due to environmental factors (1955:46-47), while Macpherson suggested that overcrowding was the cause (1959:27). He therefore concluded that the Banks Island population was close to its maximum potential and that hunting would assist in reducing violent population fluctuations. McEwen on the other hand thought, as of 1955, that mortality was exceeding natural increase, and thus hunting should be reduced. A census conducted by Macpherson in 1959 on the basis of flight transects gave a population of 2351 caribou on the Island, apparently indicating a reduction over previous years.

Utilization of the herd is indicated in Table 12. The kill over the last few years has remained relatively stable and has amounted to about ten per cent annually of Macpherson's most recent population estimate. A few Holman hunters go to southeastern Banks Island in some years to hunt caribou, and may take a dozen or so. Unfortunately, recent calf crops, and present mortality rates due to other factors, are unknown and it is therefore impossible to say whether hunting pressure may be safely increased, or should be reduced. Neither are any conclusions possible about the effects of the wolf control program, on the basis of present data.

TABLE 12 — Annual Caribou Take, Banks Island, 1954-65.

Year	no. of caribou	no. of hunters*	ave. take per hunter
1954-55	100	21	9.5
1955-56	175	7	25.0
1956-57	75	5	15.0
1957-58	300	11	27.3
1958-59	140	17	8.2
1959-60	180	18	10.0
1960-61	249	20	12.5
1961-62	232	24	9.7
1962-63	299	19	15.7
1963-64	207	20	10.4
1964-65	280	20	14.0
Averages	212	16.5	12.8

*Numbers of hunters generally exceed those given for fox, bear and seal. This is probably explained by the fact that some women hunt caribou. These numbers may not be as reliable as those used for other species.

Source: R.C.M.P. Annual Detachment Reports, Sachs Harbour, Game Conditions.

Caribou is used exclusively for human food except in emergencies. There appears to be virtually no waste of meat, and skins are used for bedding.

The peak hunting period for caribou is in October and November, and in 1964-65, almost 40 per cent of the year's take was obtained in these two months, when special trips were made. Men usually go in pairs, prior to the trapping season, to obtain meat and hides, and most of the hunting at this time occurs within the area indicated on Map 9. A few individuals make special caribou hunting trips at other times of the year, again within the delimited area. Caribou are taken along the trapline throughout the winter, when the opportunity arises, so that a small percentage of animals are taken outside this area.

The movements of caribou on the Island are not altogether clear. There is no definite group migration from one area to another. The animals appear to be concentrated in the lowlands and are thus uncommon in the extreme north and south of the Island. Some local residents believe caribou to be more abundant along the west coast between Storkerson Bay and Kellett River in fall than during other seasons.

Muskoxen (*Ovibos moschatus*)

The muskox is unique among Banks Island land mammals inasmuch as its utilization by Eskimos led to its near extermination. Muskoxen were apparently common in the 1850s, according to the accounts of M'Clure and Collinson. Stefansson, despite his extensive travels on the Island, saw none, and concluded that late nineteenth century utilization by the Copper Eskimos had led to their extinction, although he thought that a few might still exist in the seldom visited southern part of the Island. Stefansson believed, on the basis of bones seen at campsites, that muskoxen had formed the basis of the Eskimo diet there (1921:363). No sightings of muskoxen were recorded on Banks Island between 1911 and 1949, by which time a permanent closed season on them had been declared for the entire N.W.T. There have, however, been several sightings in recent years, and the situation appears to have improved. Macpherson estimated there to be about one hundred muskoxen on the Island in 1959 (1960:9), while Maher and Holmes saw about sixty in one flight, suggesting an even larger number of animals (1963:275). The animals are supposed to be restricted primarily to the northern third of the Island. Muskoxen have been known to wander into Sachs Harbour, and the writer saw five grazing together in the Masik Valley in May 1965, which was considered unusual.

Marine Mammals

Seals

The most important seal in western Arctic waters is the common or ringed seal (*Phoca hispida*), also known as the jar seal. These seals are apparently plentiful in the waters adjacent to Banks Island, although little is known of the north and east coasts. In past years, when the Eskimos lived in dispersed camps, they had no trouble obtaining seals locally, and sealing at such camps as Sea Otter and Storkerson was considered to be very good. Recently seals have been hunted exclusively along the southeast coast, and particularly in the vicinity of Sachs Harbour itself. Table 13 indicates recent annual seal takes. Two factors have affected hunting pressures on the seal population in the last decade or so. The first is that until the late 1950s, most individuals spent the summer, which is the peak seal hunting season, on the mainland. The second factor is the sharp rise in sealskin prices which commenced in 1963 and peaked in 1964. The market is presently understood to be declining. This has not been quite as important as in other settlements, however, because Sachs Harbour people need seals for dog food in any case due to the absence of fish. The unusual take in 1964-65 may possibly be attributed in part to ice conditions in the summer of 1964. Remaining ice pans in the area probably decreased the number of days during the open water period when seas were too rough to permit hunting.

There are two main methods of seal hunting at Sachs Harbour; open water and floe edge hunting. The peak period is in summer, when seals are hunted from open canoes. Usually men go out in pairs. The distance travelled from the settlement is governed by a number of factors, including the amount of outboard fuel which it is feasible to carry, weather conditions (men do not go unduly far out from shore

for fear of being caught in a sudden storm), and the fact that ordinarily no camping out is involved. There is also the fact, of course that seals may be sufficiently plentiful within a few miles of the settlement and there is no reason to go further. Thus the average trip may perhaps last as much as 18 hours, and rather than going to any one spot, the men will move around offshore. The majority of summer hunting is apparently restricted to within ten miles from shore, between Cape Kellett Sandspit and the Fish Lakes (see Map 8). Occasionally individuals may go 12 or 15 miles out, and as far southeast as the Masik River. In addition, seal are sometimes hunted around the north side of Kellett Spit, but this was not the case in the summer of 1964 as that area remained icebound.

TABLE 13 — Annual Ringed Seal Take, Banks Island 1955-65.

Year	no. of seals*	no. of hunters	ave. take per hunter
1955-56	550	7	79
1956-57	500	5	60
1957-58	500	11	45
1958-59	200	15	13
1959-60	600	13	46
1960-61	900	16	56
1961-62	914	19	48
1962-63	1000	19	53
1963-64	1106	18	61
1964-65	2609	18	145
Averages	868	14.1	62

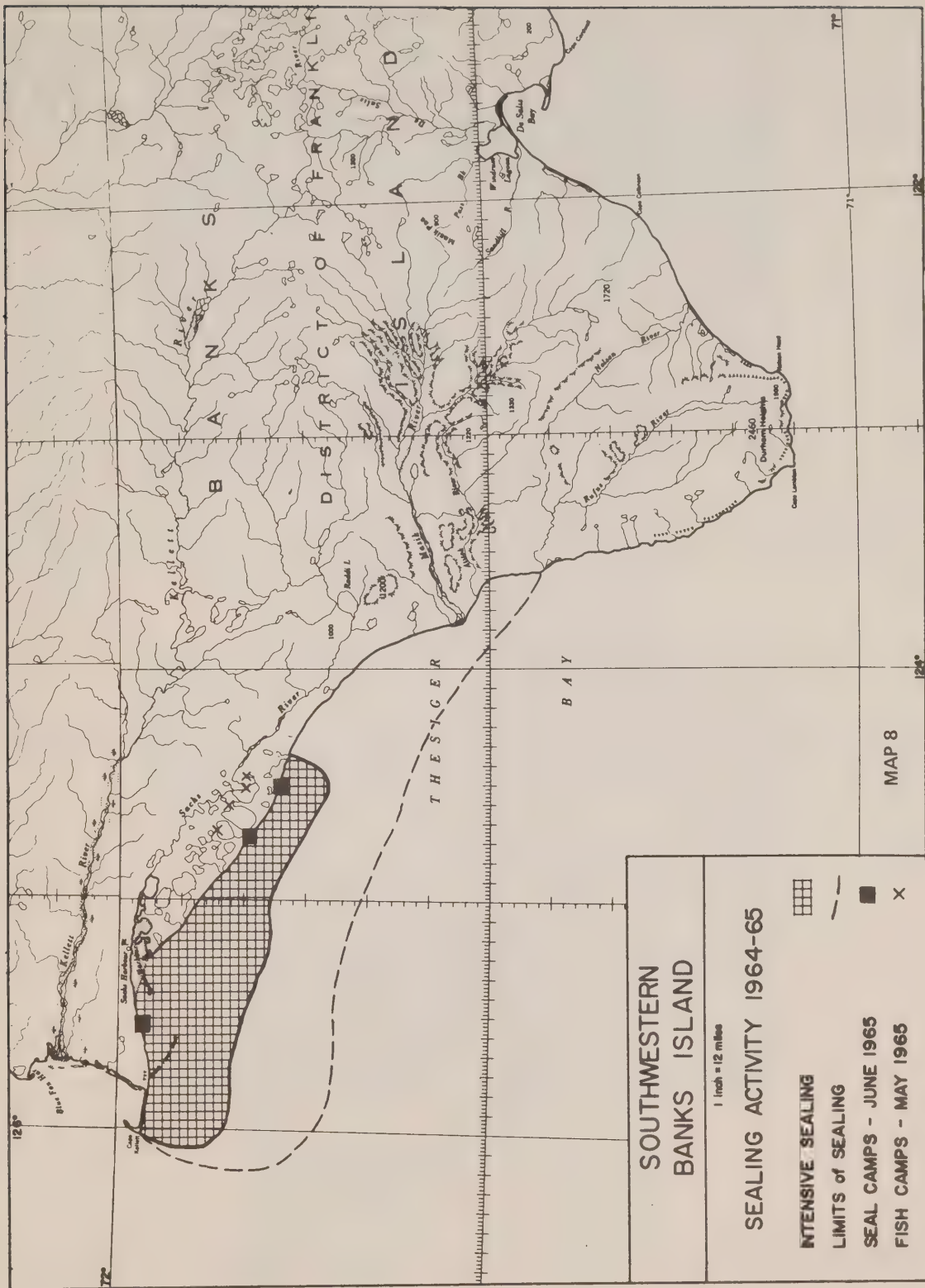
*Figures approximate in most years

Source: R.C.M.P. Annual Detachment Reports, Sachs Harbour, Game Conditions.

During freeze-up and early winter, virtually no seals are taken. In January, hunting begins at the floe edge, if it exists at that time. During the dark months, hunting usually occurs only when the seal supply is short. On such trips, which are usually of one or two days duration, the location of the seal hunt will vary depending on where the floe edge is (it can be fifteen or twenty miles out), but generally the hunter travels straight out from the settlement, in a SSW direction.

In May and June, the spring seal hunt occurs, and several methods may be used at once. At this time of year many families leave the settlement for temporary camps along the coast. At first, some go to the Fish Lakes, for what is generally considered a holiday, although the women fish through the ice and the men may do a little sealing along the floe edge, which by this time is generally within five miles of shore. By June, most families are at one of three locations (see Map 8) Mary Sachs to the west, or near the Fish Lakes to the east. (see Plate 7). Most of the hunting consists of going out to the floe edge, singly or in parties, and shooting seals as they bob up to breath next to the ice. Small homemade skiffs are taken by sled to the floe edge, and when a seal is shot the skiff is set in the water and the hunter rows out to retrieve the seal (see Plate 9). Appendix C offers some idea of the activity involved in floe edge hunts, and their productivity.

At this time of the year it is also possible to hunt on the open water. A few men load their canoes and outboards on their sleds, take them to the floe edge and start out from there. In addition, seals tend to bask on the ice by their breathing holes at this time of year, and can be taken by stalking. Seals found basking on the ice are known locally as hauled-ups. The floe edge comes closer to shore during the spring, and toward the end of June becomes so unstable that it can no longer be visited. Travel on the ice continues as long as possible, however, even though the surface becomes puddled, and basking seals can be taken until the ice as a whole is rotten. Between this time and open water, probably a period of about two weeks, there is no seal hunting. Map 8 indicates the areas of seal hunting. The area of intensive hunting includes the main areas of both summer, winter and spring sealing, and it seems likely that at least 75 per cent of all seals taken are obtained within this smaller area.



Sachs Harbour Eskimos identify two seal populations in the area, distinguishing between local seals and travelling seals. It is supposed that the local seals remain in a restricted area throughout the year, and these are the ones which maintain breathing holes within a few miles of the shore. The seals taken along the floe edge are believed to be a migratory population, and in the spring they are said to be moving from southeast to northwest along the coast. The travelling seals are reputed to be somewhat smaller than the local seals.

Two methods of seal hunting



Storkerson Bay, early June, 1965. Mr. Peter Sydney has successfully stalked this seal which was basking by the crack in the ice. Note the scope on the rifle.



Near Fish Lakes, late June, 1965 Mr. Andy Carpenter shot this seal from the floe edge. The small skiff is typical of those used at Sachs Harbour to retrieve seals taken in this way. Calm water like this is ideal for seal hunting.



The Seal Camp south of Fish Lakes, late June, 1965 Four families were based here at this time. A shore lead had developed which necessitated crossing by the small skiff just left of centre. The dogs are kept out on the ice.



Waiting by the floe edge, late June, 1965 Two hunters kept watch here for nineteen hours continuously. The location is south of Fish Lakes, and the floe edge here was only a few hundred yards from shore.

The actual seal population of the area is not known, and again, nothing can be said about the relation of present hunting pressures to the sustainable yield. Almost all seals are used for dog food, and there is very little waste of meat and viscera. In the last couple of years, when the market for seal pelts has been good, the skins have been highly prized. However, most seal skins obtained between mid-May and mid-July are unsaleable or of low value as they are faded and moulting during this period. There is also a considerable loss at this time of year as many seals sink when shot. Losses from both stalking and floe edge hunting may reach 50 per cent during this period. Seal blubber, however, is almost entirely wasted. When the seal is skinned, most of the blubber is also stripped off, and is simply left on the ice amidst other wastes, to be

carried away at break-up. Because heat and light are provided almost entirely by petroleum fuels, seal blubber is no longer considered a resource at Sachs Harbour. The blubber from ten or eleven seals is sufficient to fill a fuel drum. On this basis, about one hundred drums could have been filled in each of the last few years except for 1964-65 when over 200 drums, or about 10,000 gallons, could have been prepared.

Seal nets have not been used at Sachs Harbour. This appears to be due to the unfavourable local conditions. Near the mouth of the harbour, for instance at the sandspit, the water is too shallow for a net. The nearest suitable place in terms of depth is said to be near Cape Kellett, but this is a considerable distance to travel in order to tend a net. Although under certain conditions, nets can be left untended for a week, the coast near Cape Kellett is exposed, and the chances of a net being lost, damaged or tangled in a sudden storm are high. Unfortunately there are no deep protected waters near Sachs Harbour. Seal hooks are not used by Sachs Harbour residents, not even by those Copper Eskimos who have had some experience with them on Victoria Island. This is primarily because of the importance of trapping, and the adequate winter supply of food.

Bearded seals (*Erignathus barbatus*), or ugyuk, are also taken in the area. Generally the take runs at about two or three per cent of the number of ringed seals obtained. Their skins are used locally for boot soles, rather than being sold, and they provide a large quantity of meat as they are much larger than ringed seals. Ugyuk are said to be common in springtime at Sea Otter Harbour.

Exotic pinnipeds are occasionally taken near Sachs Harbour. One walrus was taken in each of the years 1959, 1963, and 1965, and in 1963 a local hunter killed a hooded seal (*Cystophora cristata*) near the Fish Lake. Part of the skin was seen by the writer in 1965. Apparently the animal was somewhat smaller than normal adult size.

Whales

The white or beluga whale (*Delphinapterus leucas*) is sometimes seen in the vicinity of Sachs Harbour, but is not hunted. Local residents state that the water offshore is too deep and it is impossible to track white whales. It may also be that due to other activities and food sources, white whales are not considered worth taking in any case.

Narwhals (*Monodon monoceros*) have been seen along the southwest coast. One individual saw five or six together three or four years ago, and one was seen by two people some distance apart along the floe edge in June 1965.

The bowhead whale (*Balaena mysticetus*) was formerly common in western Arctic waters, and during the late 19th and early 20th centuries was hunted intensively. Many were taken off the southwest and west coasts of Banks Island, and when whaling ceased in about 1912, these mammals were nearly extinct. Since then they have been protected from commercial hunting, and now appear to be increasing in numbers. There have been several reports of bowhead whales in the Beaufort Sea and in Amundsen Gulf in recent years, and they are seen every year at Sachs Harbour.

Bowheads have been seen from Sachs as early as April if there is open water then, but they are most frequent in the month of June, during which time they are travelling. Later in the summer they have been observed feeding in the region of Cape Kellett. A list of observations of whales near Sachs Harbour in June 1965 will be found in Appendix D.

Although the ancient inhabitants of Banks Island were a whale hunting people, the present occupants are unfamiliar with whaling techniques, and none have ever been involved in a successful whale hunt. However, some interest has been expressed in whale hunting, both locally at Sachs Harbour for some years now, and for the western Arctic generally at the 27th and 28th sessions of the Northwest Territories Council.

At Sachs Harbour the problem of whale hunting is twofold: how to hunt them, and where, when and under what circumstances. The method is a matter of knowledge and experience, which the people do not have. Some years ago the Department of Northern Affairs supplied the settlement with a darting gun, and the necessary bombs and percussion equipment. To use a darting gun, one must approach a surfaced whale in a small boat, and actually strike the whale with the spring tip, which releases a trigger which fires the bomb. Not only must one get within a few feet of the whale, but one must also place the bomb accurately. The Sachs Harbour people do not know the exact placing of the bomb, and they are also unashamedly nervous of approaching the huge whale at such close range. Some of the men state that they would feel happier about whale hunting if they had a harpoon or shoulder gun.

The other problem is one of local environmental conditions when the whales arrive. In northern Alaska, the whales come in along a narrow lead, so that they have only a restricted area in which to move. At Sachs Harbour, the floe edge borders a vast body of open water, and there is no guarantee that travelling whales will surface anywhere near the floe edge, as the examples from 1965 should show (see Appendix D). One can go sealing at the floe edge with certain results; whaling is by no means such a certainty. Given the present inclination to hunt seals, it is difficult to see how floe edge hunting could be organized. It is true that the men are at the floe edge when sealing, but their disposition is scattered, with seldom more than three or four men together at a time, and then not for long, as they tend to move about in search of better spots. Whaling, however, requires a concentration of men keeping vigil at one spot for days, and there is, as mentioned, no certainty that a whale will come within a mile or two of any given spot where the hunters might be. Such a group, lying in wait for a whale they might not get, would almost certainly lose out on the spring seal hunt, and therefore the hunters would likely be disinclined to embark on such a venture. The other possibility, of course, is to use a schooner to go after whale during the open water period. This seems the most likely method of obtaining them. There is only one boat at Sachs Harbour, the "North Star", a schooner of 57 feet in length, which could feasibly be used, although at present the owners are more interested in selling it.

In order to hunt with some assurance of success, the people would need some training, and it has been suggested in the past that experienced Alaskan Eskimos be brought in to teach them. There is, however, the matter of international agreements on bowhead whales, and the Department of Northern Affairs, in consultation with the Department of Fisheries, has decided that outright government aid in the matter of Eskimo whaling would be inconsistent with the treaties to which Canada is a party. Whether Canadian Eskimo could, independently of the government, collectively hire an Alaskan Eskimo, has not been discussed. It would be an expensive undertaking, and it is doubtful whether the Eskimos are willing to spend their own money on this.

There is also the matter of consumption. Canadian whaling regulations specify that any black whale taken by Indians or Eskimos must be used exclusively by themselves, locally. No trading or trafficking is permitted, and the Department of Fisheries, by their interpretation of the regulations, frowns on the use of whale meat for dog food (Current Files, Northern Administration Branch, Department of Northern Affairs and National Resources, Inuvik). Unfortunately, the interest in whaling at Sachs is based on the possibility of obtaining a large amount of dog food at one stroke, and the sale of quantities of muktuk at good prices to mainlanders, and neither of these aims is permissible. In addition, the Department of Fisheries has issued whaling permits* not only to Sachs Harbour, but to Tuktoyaktuk and Aklavik also, so that if mainland communities are also successful in whale-hunting, there would be no market for Sachs Harbour muktuk. Muktuk is considered a great delicacy, but is difficult to imagine how the population of Sachs Harbour could consume all the muktuk from one whale, and as for the meat, it is not certain whether their tastes would make a steady diet of whale meat welcome, although if dogs could be fed this meat there would be no problem. It seems likely that storage would not be a limiting factor, as ice house capacity is fairly good, and in any case seals have been stored exposed on the beach during the summer and have still been fit for dog food.

To conclude, whale hunting would be possible at Sachs Harbour, with some guidance and assistance, but in view of present regulations and the fact that there is no shortage of other foods, there does not appear to be any reason to encourage whaling at Sachs Harbour at this time.

*These permits allow whale to be taken annually at a settlement.

Fish

Fishing has been of minimal consequence at Sachs Harbour. Arctic char (*Salvelinus alpinus*) may be obtained at the mouth of the Sachs River, but the run is not a large one, and in any case is seldom utilized. The peak of the spring run is thought to occur when the ice goes out from the mouth of the river, some miles up from the settlement. To fish at this time would involve hauling nets and a skiff over the ice, and by the time the water is open in front of the settlement, the run is over. During the fall run, the water is quite clear and local residents say that the char can avoid the nets under these conditions.

Cod (not known whether rock cod or saffron cod), can be obtained by jigging in the Harbour, although this is seldom done. A few years ago large numbers of capelin (*Mallotus villosus*) spawned in the Harbour for two or three successive years, and could be scooped up in buckets. More recently, some lake herring (*Coregonus sardinella*) have been taken in the harbour.

In late May, most families visit the Fish Lakes for relaxation, and the women and children do a little jigging through the ice. Char and trout (*Salvelinus namaycush*) may be obtained in these lakes. Each family probably gets no more than thirty or forty fish, which may average only a couple of pounds each, although a few larger ones are taken. Trout and crooked-backs (*Coregonus clupeaformis*) can be obtained in Raddi Lake, but this lake is seldom used. There are other lakes on the Island which are known to have fish, but jigging along the trapline is an uncommon practice. Manning and Sparrow obtained 200 pounds of partly dry char and whitefish in two weeks near the mouth of the Thomsen River (Manning 1956:6), which was presumably quite a bit more in terms of round weight. It is unlikely, however, that more than two or three families could depend on fish on a longterm basis at Castel Bay.

Birds

There are many species of birds on the Island, but few are of economic significance. The most important has been the lesser snow goose (*Chen hyperborea*). These geese nest in great numbers at the mouth of the Egg River, about forty miles north of Sachs Harbour. The arriving population varies from year to year, but some estimates have ranged from 15,000 to 120,000, with 50,000 to 60,000 possibly being the most likely average figures (McEwen, 1958:). The birds arrive, mostly from California, over a three week period, peaking in late May. They may stop to feed on the grassy flats near Sachs Harbour, but quickly proceed to the last ten or twelve square miles of the Egg River valley, just before it joins the Big River. Upon arrival, nests are made, and the clutch is soon laid, which generally consists of three or four eggs. Hatching occurs around the end of June, and there is some dispersal to adjacent parts of the Island later in the summer. In late August, the geese depart for the south. There are many mortality factors affecting geese and their eggs during the nesting period, and these include the possibility of cold and wet weather, foxes, gulls, jaegers, owls and, formerly, humans. It was the practice in the early days of the occupation of the Sachs area to travel to Egg River in the spring to feast on geese and eggs, and each family might return to the settlement with a washtub containing 200 or 300 eggs. This practice was forbidden about twelve years ago, and since then there has been virtually no eggng. At present, Sachs Harbour hunters are permitted to take thirty geese per family, but only in the immediate vicinity of the settlement as the area to the north is now a sanctuary. The geese are highly prized, being a most welcome change in diet, and the quota is always fulfilled. Some feel that those hunters with large families should be permitted a higher bag limit. On occasion families send one or two geese to the mainland to relatives, as gifts or in exchange for whitefish or beluga muktuk.

Other geese such as brants (*Branta nigricans*) are seldom taken, as the thirty geese limit is understood to apply to all types of geese, and the snow goose is considered the most desirable. Various eider ducks are found on the Island, but are seldom taken. They are not considered good eating, and goosedown is generally used in preference to eiderdown in any case. Willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*L. mutus*) are common throughout the island. These birds are infrequently taken, but provide

an occasional meal when travelling. They are prone to getting caught in traps, and in such cases are fed to the dogs, as are gulls which can also get caught this way.

The Yearly Cycle

The annual cycle of economic activity is well portrayed by Figure 3. Figure 4 shows, in a slightly different way, the importance of the various game species at different times of the year. The emphasis is relative, and no attempt has been made to devise a common denominator of measurement for food and non-food species in order to quantify them. Taking the fur and game year, which commences on July 1, the ice is almost broken up, and very shortly, open water seal hunting begins. This continues well into September. The total time spent seal hunting depends on the weather, as if the seas are rough, open water hunting is impossible. Certainly the need to obtain fresh water demands some time, and generally this competes with sealing time as the journey requires fairly calm weather also. A few men may seek summer employment with the D.O.T.

Sometime in September the snow begins to fall and the lakes freeze. This is a time of preparation for the winter. Ice must be cut and stored, traps, harnesses, toboggans and other equipment must be mended or made, and the dogs must be made ready. In October, many hunters make special trips to obtain caribou.

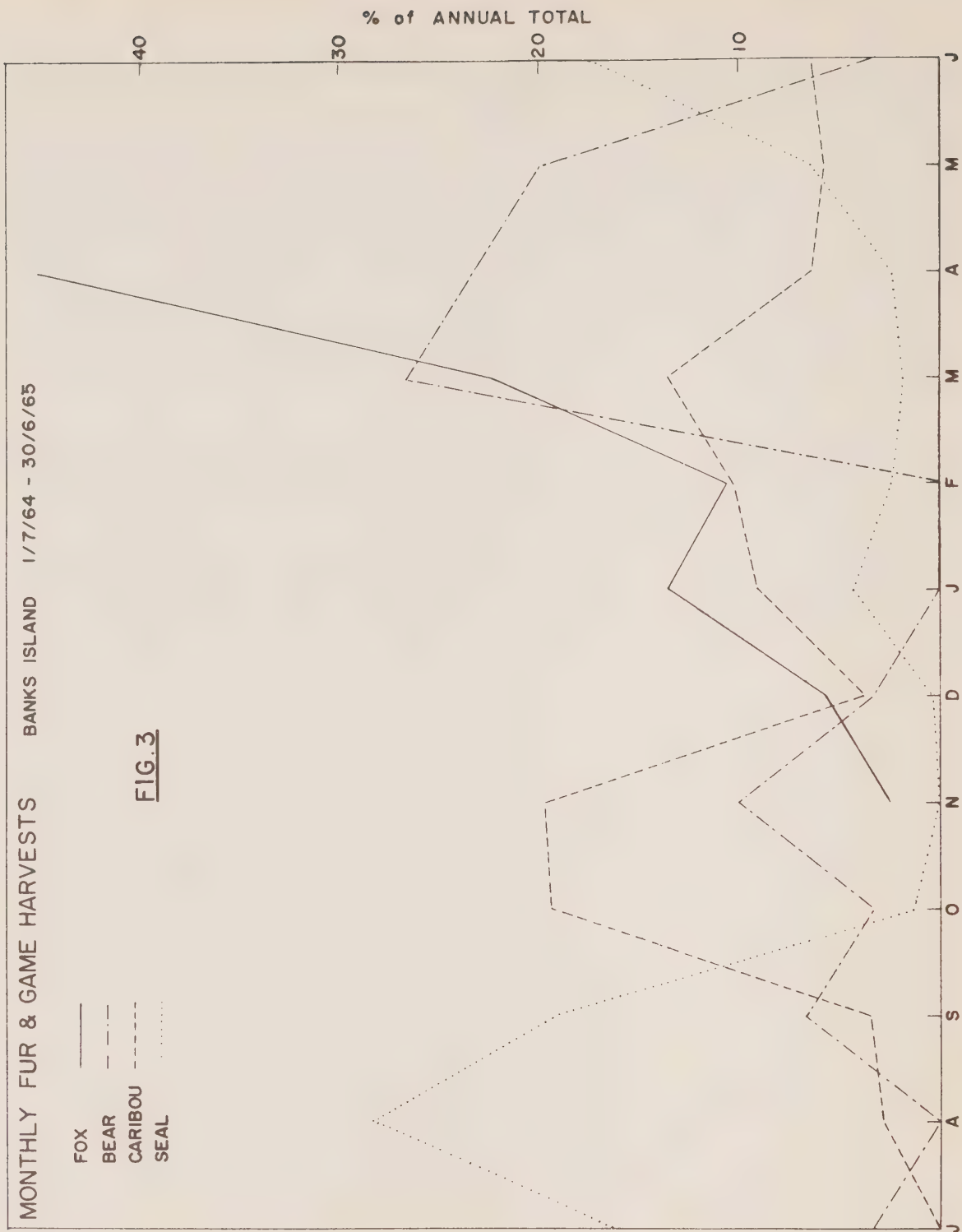
November 1 marks the opening of the trapping season, and from then until April 15 this is the major focus of effort. During this four and a half month period, a man may spend 35 per cent of his time actually on the line, and the figure may reach 50 per cent or 60 per cent in some cases. The length of time spent on any one trip is of course partly governed by the weather conditions, as a storm may necessitate several days layby. Even a moderately high wind can prevent trapping, as it becomes impossible to reset the traps. Also, travel time per day is short in the dark days of December or January. Toward the end of the trapping season, depending on trapping success, hunters may make special trips to hunt polar bear, and may do so in any case after the season is over on April 15.

By the middle of May, the weather is warm and pleasant, and there is no darkness. After the long trapping season, the families take a holiday at the Fish Lakes for about two weeks. This break is welcomed particularly by the women, who have been indoors for most of the winter. Some economic activity in the way of fishing and sealing takes place, but this is incidental to the prime purpose of this break which is for relaxation.

Subsequently, activity becomes diversified. Some families go out to the sealing camps, one or two may also go caribou hunting, and of course, it is goose hunting time. During this period, foxes are skinned, stretched and cleaned, although some of this work is done in the winter also. The move to the sealing camps is partly in order to achieve a better distribution of hunting effort, and partly is due to the effects of the spring melt. When the snow melts at Sachs, much of the ground becomes sodden, and the area around the homes is unfit for the children to play in. Also, because the snow has banked around the buildings, it takes longer to melt. The seal camps are located on dry shingle beaches or on promontories where the snow has melted early. Later, in June, when the settlement is dry again, people move back and each family rakes and cleans the area around their house. Between the time when travel to the floe edge becomes impossible, and when the ice is completely broken up, preparations are made for open water sealing, and boats are repainted and outboards mended.

Areal Utilization

In general it may be said that hunting and trapping patterns on Banks Island are consistent with maximum economic gain, in terms of the present economic structure and technology. By this it is meant that there do not appear to be any major irrationalities in the patterns of time and energy expenditure, or in areal utilization. Trapping is the basis of the economic system, and other hunting activities may be seen as necessary for the perpetuation of trapping. Trapping is also the most extensive activity in terms of area utilized, and we have noted that about 30 per cent of the potential trapping area of the entire Island and adjacent fast ice is used. Table 14, based on Map 9, indicates the relative areal extent of hunting for the major economic species.



RELATIVE SEASONAL DEPENDENCE ON FUR AND GAME

BANKS ISLAND 1964-65

JULY-SEPT.	OCT.-DEC.	JAN.-MAR.	APR.-JUNE
SEAL	CARIBOU	FOX	BEAR
BEAR	FOX	BEAR	SEAL
CARIBOU	BEAR	CARIBOU	CARIBOU
	SEAL		GEESE
			FISH

FIG. 4

BANKS ISLAND

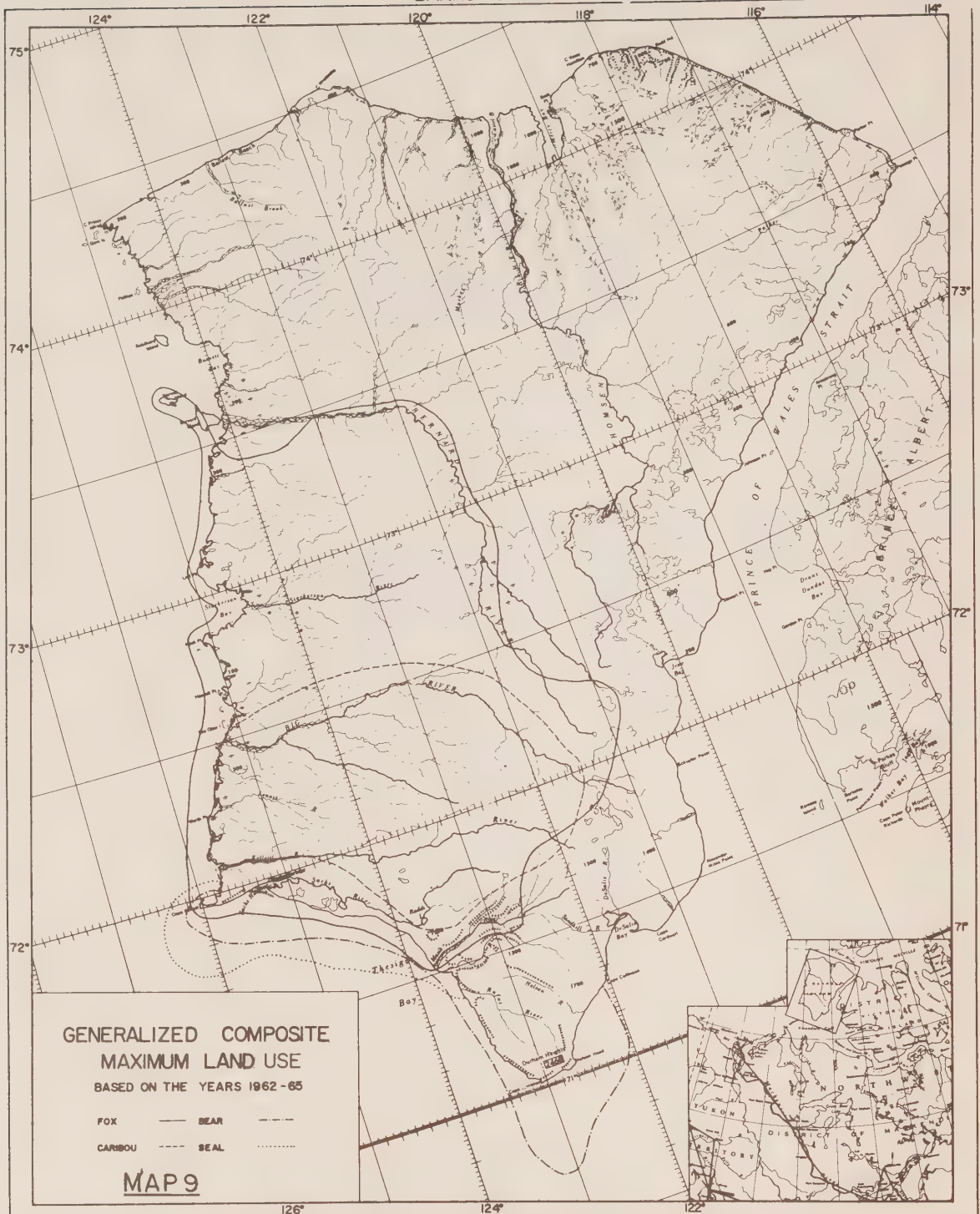


TABLE 14 — Relative areal extent of trapping and hunting for major economic species, Banks Island, 1962-65.

Species	Areal extent of hunting or trapping in square miles	per cent of area used for fox trapping
Fox	10,017	100.0
Caribou	4,034	40.3
Bear	1,193	11.9
Seal	938	9.3

It is apparent that if trapping is to be the basis of the Banks Island economy, the maximum possible utilization of the Island must be expressed in terms of trapping area. Theoretically it should be possible for about 60 trappers (or 300 people) to utilize the entire Island at the same level of effort that 18 trappers use 30 per cent of it now (assuming an even distribution of resources). This gives a density of about one person per 100 square miles. Table 15 indicates that in order to obtain country produce in present proportions, a far larger area is required for fox hunting than for any other activity. Therefore, if the island is fully utilized for caribou, and probably for the other species also, although the potential areas for bear and seal are not the same; that is to say, if the hypothetical 60 trappers use 100 per cent of the Island for fox, they will only need 40 per cent of it for caribou, etc. (This assumes that the percentage of area used is synonymous with the percentage of the animal populations utilized, which may not be the case). However, as previously mentioned, in order to increase areal utilization, the establishment of other settlements would be necessary, and this is an unlikely development.

The above figures on areal utilization also give some idea of the relative productivity per unit area of the different species. The figures given in Table 15 are quite tentative, of course, but they may be of some use for comparison with other areas.

TABLE 15 — Fur and food production per square mile, Banks Island, 1962-65.

Species	Average production 1962-65	Numbers taken in delimited area	Average area utilized 1962-65	No. animals taken per square mile	Pounds edible produce per square mile*
Fox	2324	2324	10,017	0.23	0.7
Caribou	262	236	4,034	0.06	3.6
Bear	33	32	1,193	0.03	9.0
Seal	1572	1572	938	1.68	58.8

*See explanation of animal weights below.

It will be noted that in terms of food production per unit area, the seal is by far the most productive, and this is probably even more true than the table would indicate. At least 75 per cent of the seals are taken within an area of about 300 square miles, so that four to five seals per square mile are obtained, or perhaps 150 pounds of food. Again these figures assume equal distribution of stationary populations, which is of course not the case. Research into annual movements and home ranges would clarify these points.

The major source of error in Table 16 lies in the assumed animal weights, about which there is limited accurate information. The weights of seal and ugyuk are based on Brack's estimates for the Keewatin (1963:151-2), with a small proportion of the blubber added. The caribou weight is similarly derived but is reduced by an arbitrary 20 per cent in view of the smaller size of "Rangifer pearyi". The weights of fox and bear are personal estimates, and the bear figure particularly may be quite erroneous. Total seal weight is probably high in view of the fact that a small percentage of those taken are young. However, this is perhaps balanced by the occasional utilization of such food sources as hare, ptarmigan and fish, which are not included in the table.

Food Production and Requirements

Total country food production is given in Table 16.

TABLE 16 — Average annual food production, Sachs Harbour, 1962-65.

Species	Average utilized production 1962-65	Weights of edible portions of animals*	Approximate weight of total food utilized
Seal	1572	35	55,000
Caribou	262	60	15,700
Fox	2324	3	7,000
Bear	22	300	6,600
Bearded seal	40	125	5,000
Total			89,300

*See explanation of animal weights below.

In order to speak of food requirements it is necessary to discuss local habits of dog feeding. Corn meal has been in the past, and still is, an important component of a dog's diet at Sachs Harbour. On the trap line or on hunting trips, it is customary to feed one's dogs a mixture of corn meal and seal, which is made and cooked every night. About 1 lb. of cornmeal and a 1/2 lb. of seal meat and blubber is used for each dog. Everyone "cooks" on the trap line, and a few do so in the settlement also, perhaps throughout the winter, or on alternate nights, or just occasionally. When cornmeal is ordered, about 100 pounds per dog per year is reckoned on, which fits closely with the observed settlement average of cooking 100 nights per year. There are about 185 adult dogs in the settlement*, and this figure appears to have remained fairly steady over the last two or three years. It is therefore estimated that about 18,500 lbs. of cornmeal are imported annually.

The custom of using large amounts of cornmeal appears to have arisen from both necessity and convenience. In the days when trappers had to return to the mainland in the summer, it was impossible to obtain sufficient dog food for the winter, and so cornmeal was brought in in the fall. While this is no longer the case, at least to the same degree, cornmeal is still considered desirable dog food. It is light and compact, and therefore allows greater travelling mobility, and it can also be cached on the trapline from one year to the next without spoilage. Many also feel that the dogs do not work as well on a straight seal diet, and that a warm meal is also desirable.

Dogs are fed every night, except for a four month period between mid-June and mid-October when they are fed every alternate night. This means there about 300 feeding nights during the year. For one hundred nights, 1/2 lb. of seal is used per dog, or 50 lbs. For the other 200 nights, a little under 2 lbs. per dog per night is used, so that, given the cornmeal ration, a total of about 400 lbs. of meat is required per year for each dog. Accordingly, the required settlement total is about 74,000 lbs. Excluding caribou, a total of 73,600 lbs. is actually obtained. Apparently requirements are closely met, and not exceeded. The actual ratios of different food inputs vary from year to year — for instance in 1963-64 there were greater bear and fox inputs and less seals. On the other hand the seal take in 1964-65 was so high that some families used less cornmeal than usual. Reduction in cornmeal use takes place in the settlement, but trail requirements would likely remain the same regardless of how much meat was available.

It may be noted that the dogs are extremely well cared for at Sachs Harbour, and feedings are very seldom missed. In other settlements, the dogs are lucky to get fed twice a week in summer, and the Sachs people also water their dogs every day in summer.

*The R.C.M.P. dogs are included in this figure, as the Special Constable's hunting returns are included in the seal totals, and the feeding practices are similar. There were a few pups in the settlement in June when the count was made (summer is the favoured season for raising pups), but these were not included in the total because when they take their places on the teams some older dogs will likely be destroyed.

The human diet contains a fairly high proportion of imported foods. The main country food is caribou. One caribou is generally considered to fill the meat requirements of the average family for a week. Taking the number of families as 17, the average caribou take would feed them for a little over fifteen weeks, or restated, caribou meets about 30 per cent of the community's meat requirements. In fact the figure may be higher as school children are away for much of the year. Other minor sources of meat such as fish, geese and other birds, add to the locally obtained total.

The question of whether the community could be entirely self-sufficient as to food is academic, as they would not wish to be. The important fact is that the people appear to be able to obtain the desired proportions locally, and in this sense the region is not overpopulated. As mentioned, the limiting factor is fur potential.

CHAPTER VI

CAPITAL GOODS: TRAPPING, HUNTING AND TRAVEL TECHNOLOGY

In any modern hunting and trapping system, investment in capital equipment is high. Sachs Harbour men know that the return on their effort is maximized by using the best equipment. The Banks Islanders own very good guns, many traps, and take very good care of their dogs in comparison to some of their fellow trappers in other parts of the western Arctic. The purpose of this chapter is to illustrate the type and the magnitude of these investments, and the nature of the technology. Special mention will be made of travel technology and the possibility of mechanized overland travel. Information was not available from one individual, who is therefore excluded from all calculations. All totals refer to June 1, 1965, unless otherwise stated.

Trapping and Hunting Equipment

Seventeen trappers at Sachs Harbour own about 8,500 traps between them, or an average of about 500 traps per individual. The range is from 300 to 900 per trapper, except for one older man, who, having passed on most of his traps to his son, retains only 50 or 100 for his own use. Previous area surveys in the western Arctic have found that perhaps 300 to 400 traps are required in order to depend on white fox as a major and adequate source of income. In most other settlements, very few men have this many traps. At Sachs Harbour, virtually every trapper has at least this many, and some own twice this number. Although good care is taken of the traps, some are lost or damaged each year due to a variety of causes. It is difficult, however, to determine the average replacement rate. In 1965, several trappers intended to buy a total of at least 750 traps, which is almost 10 per cent of the total. However, one man was returning to full time trapping and therefore was getting in an unusually large capital outfit. On the other hand, several men stated that the average life of a trap is about ten years, and that figure is used here.

Every family owns firearms; some only two, others as many as seven. The average user owns four, and based on the most numerous types in the settlement, these will consist of a .22, a .222 (with scope) for seal hunting, a 12 gauge shotgun for birds, and, for big game, a .243 or a .30-06*, either of which will almost certainly have a scope. The average age of these firearms is fairly low – perhaps four or five years. The obtained figures are used for depreciation rates, but they are perhaps a bit high inasmuch as some types of rifles, for instance the .222, became popular recently, so that the average age may not represent the true life of the firearm. No information was obtained for scopes, but these almost certainly last longer than the rifles. In general, firearms are well cared for, and if their lives seem short, it must be remembered that they are in constant use under harsh conditions.

While strictly speaking it is not capital equipment, ammunition will be mentioned here. It is very difficult to ascertain ammunition use. Local hunters obtain it from a variety of sources (Inuvik, Edmonton or locally), and most do not recall the amount they buy in a year. Observed shells fired per animal obtained is generally higher than the ratio stated by the men themselves, which is to be expected. For instance, on one seal hunt, 2.5 shells were fired for each seal obtained (see Appendix C), although men have said they use between one and one and a half shells to obtain a seal at the floe edge. The ratio is much higher for open water sealing. Rough estimates are used here for ammunition, consumption in Table 17.

The computed total of \$120 average expenditure on shells is almost certainly a conservative estimate. In the first place, the estimated shells used per animal are on the low side. Also, many Eskimo hunters take

*Present preference is for the .30-06, and several hunters intended to obtain them after their .243s gave out.

delight in firing away at hopeless targets, that is to say there is a certain joy obtained from shooting whether there is any economic return for it or not. Sachs Harbour men are apparently no different in this way, and it seems possible that the annual ammunition expenditure per hunter may be as much as \$150.00.

TABLE 17 — Average annual ammunition expenditure per hunter, Banks Island, 1962-65.

Species, and calibre used	Shells used per animal taken	No. animals Taken ¹	Total shells used	Cost ²
Seals (2.22)	4	86	344	\$62.00
Caribou and bear (.30-06)	5	16	80	24.00
Birds (12 g.)	4	30	120 ³	18.00
.22			1000 ³	16.00
Total				\$120.00

¹Based on three year average, 1962-65. ²Estimated average cost f.o.b. Sachs Harbour from all sources.

³The .22 is often used as a training firearm for younger boys.

Other equipment is of minimal importance and will not be included in the calculation of outfit costs. Seven men use set guns, of which there are a total of eleven in the community. Such guns are never bought, however. They are old firearms no longer useful for any other purpose. There are about four leg traps for bear in the settlement, which are not used. A very few people have a couple of seal hooks, and there is one homemade seal net in the settlement, and none of these are used. About half of the families own a fish net or two each, but these are used so seldom that the replacement rate seems hardly worth considering. Finally, there is a darting gun and ammunition for whaling which was supplied by the Department of Northern Affairs some years ago.

Travel Equipment

Summer Travel

Most families own boats and outboard motors. In former years, the schooner was an extremely important asset, as it was the only means by which families could venture to Banks Island for the winter. Only two schooners still remain in the settlement now: The "North Star" and the "Fox". Both were first brought into the area about thirty years ago, and like most of the schooners in the western Arctic, are falling into disuse and disrepair. Neither has been in the water for several years, and their owners (the North Star is jointly owned, and the Fox is individually owned) would be just as happy to sell them. The "North Star" is a fairly large boat, about 57 feet in length, and is in fair condition, while the "Fox", which is about 42 feet long, would require a major overhaul. It seems certain that these boats could be sold only at low prices, if at all, as a buyer would be compelled to make necessary repairs at Sachs Harbour before delivery. The only advantageous use to which a schooner could be put at Sachs Harbour now is for whaling, but as mentioned several factors militate against this. The owners might consider it worthwhile refloating the boats for this purpose if they thought there was some chance of a successful hunt, especially if seal prices declined to the point where it would no longer be considered worth skinning them. However, they cannot be specifically taught to hunt whales, according to present interpretation of the International Convention.

Of far greater importance in recent years, have been the smaller, open boats, which are used primarily for seal hunting.* Twelve families own a total of 13 boats, and one man was expecting a new boat in the summer of 1965. Of these thirteen boats, nine were 20 canoes, and there were two other canoes and two dinghies. The average age of the canoes was 4.4 years, while the dinghies were older.

Fourteen families own a total of 18 outboards, most of which are 10 horsepower (this includes 9.8 HP motors), although there is one 5 HP motor in the settlement and a few ranging from 15 to 20 HP. The average age of all outboards is 1.7 years. This figure seems surprisingly low and may not represent the true life of these machines. Certainly there were a large number of motors bought during the recent period of high seal prices and there is undoubtedly a causal relationship here. However, the lack of any qualified service and repair shop reduces the expected life, and this is true at other Arctic settlements also.

It will be noted that canoes and outboards are exceptional inasmuch as not every hunter owns one. There are certain reasons for this, and some important consequences of this situation. Canoes and outboards have become vital equipment only since summering on the Island became customary, that is, about six or seven years ago. For the first few years, they were important because one had to obtain seals for a winter's supply of dog food, although if one fell short, a greater proportion of cornmeal could be substituted. However, when seal prices rose, open water hunting became not only a means of obtaining food, but also cash, which was even more important in view of the poor succession of fox years which coincided. A canoe and outboard, therefore, became a highly productive possession and a good hunter could have easily paid off both in either of the summers of 1963 or 1964. In order to obtain these items, however, one needed to order several months in advance, and also one needed either ready cash or a good credit rating. Some individuals, however, had neither. Due to the poor fox harvest, some men were unable to obtain credit through their own agents, and were moreover ineligible for loans from the Eskimo Loan Fund due to outstanding payments on previous loans. Most of these previous loans were for houses, which, however desirable and even necessary, were not income-generating investments. The men who had no boats suffered both from the fact that they were not able to go sealing as often as the others, and that when boat owners would take them, they were charged a percentage of their take for this privilege. In short, several families were and still are unable to take advantage of a situation which could have gone a long way to reducing their overall debts. Now that seal prices are falling, it is perhaps too late to remedy the immediate situation, but the case points out the need for improved availability of short-term investment funds.

Gasoline, of course, constitutes the main operating cost of these boats. An active hunter can use perhaps four drums of gasoline in a summer, which at Sachs Harbour costs about \$225.00.

In concluding the discussion of boats, it may be mentioned that every hunter owns a small homemade skiff of plywood and canvas for retrieving seals from the floe edge (see Plate 7).

Winter Travel

Winter travel requires investment not only in the actual means of transport, and the food or fuels required, but also in shelter and heat, that is, the camping gear necessary for extended trips in cold weather. Of these latter, the main items are tents, stoves and lanterns. A double canvas tent is invariably used, and no one has built a snow house on Banks Island for perhaps eight or nine years. All men at Sachs now prefer the double tent, and claim that by its use they gain greater mobility, more travelling time and greater comfort. Several types of naphtha stoves are used, for cooking and for heat, and in winter lanterns are used also. Possibly an average of \$60.00 is spent on fuel for these items in the course of a year. It is difficult to account for all money spent on sundry items involved in both shelter and travel, which would include such things as grub boxes, gas cans, sled anchors, dog harnesses and collars (a double tandem hitch is used on Banks Island), chains, rope, snowknives, pots, utensils, etc. It is arbitrarily estimated that the depreciation on all these items plus tents, stoves and lanterns is about \$75.00 annually per hunter.

*Such boats are also used for hauling water, and occasionally for setting fish nets. They can also be used for transporting gear to outlying camps should a man desire to build, for example, a winter trapping cabin on the west coast.

The means of overland transport is the sled or toboggan, the former being used in fall and spring, while the latter is used in the cold winter months. The toboggan glides best on cold snow, while the sled with steel runners is better on snow between perhaps 0° and 32°F. Toboggans are either bought ready-made, costing about \$60.00, or constructed from toboggan boards, in which case the cost is about \$30.00. (The average between the two costs is used in Table 18). Eighteen families own 24 toboggans at Sachs Harbour, and the average age of 14 of these toboggans was 3.1 years.

The sleds (which are of the komatik style) are homemade, and the sled boards and steel runners together cost about \$50.00. The 18 families owned 22 sleds, and the average age of 11 sleds was 2.7 years. One man owned a basket sled which he had made for himself about twenty years ago.

Hunting and Trapping Costs

Table 18 indicates the required annual outlay for capital equipment and operating costs for hunting and trapping at Sachs Harbour. The costs shown represent a minimum requirement, and some of the outstanding hunters and trappers may incur higher costs during the course of their operations.

The average Banks Island trapper must spend an average of almost \$1,200 each year in operating and depreciation costs (the ratio being 53:47) necessary for his trade. The figure can be even higher if one is forced to buy dogs from someone else, for the asking price is a minimum of \$75.00, and a good leader costs \$100.00. In addition, if the country food consumed by dogs is evaluated, the trapper's costs rise by another \$1,000, as the cost of feeding ten dogs cornmeal and lard all year would be about \$1,200. It is also of interest to note that the replacement value of the capital equipment is \$2,350 (excluding sundries) which depreciates at a rate of about 20 per cent annually.

Dogs and Mechanized Transport

There has been some discussion in recent years concerning the possibility of utilizing motor sleds for trapping, and ultimately getting rid of the dog population. Before commenting on the merits and demerits of such an idea on Banks Island, it may be useful to review the present system of dog team travel, and discuss some of the experiences with motor sleds which Sachs Harbour people have already had.

The initial cost of a ten dog team may be anywhere from nothing at all, if all the dogs are bred and raised, to \$1,000 if a whole team of first class dogs is purchased outright. Very seldom, if at all, does the latter case occur. The cost of operating such a dog team, if equivalent valuation is placed on country food, is about \$1,200. The data given in Appendix E indicates that the average dog team travels about 1600 miles per year. At an operating cost of \$1,200, dog travel costs, at Sachs Harbour, about \$.75 per mile. In good conditions, the dogs can maintain a speed of about five miles per hour throughout the day.

Three men at Sachs Harbour own Auto-boggans, which they bought three or four years ago. There is also a Ski-doo in the settlement, which is owned by the missionary and is newer. Both of these machines are similar in principle: they are powered by a small gasoline engine, and advance on a single rotating endless tread.

The Ski-doo is the cheapest and perhaps the more reliable of the models now in the settlement. It can be delivered to Sachs Harbour for about \$900, and can pull about 500 lbs. The ordinary 9 horsepower Autoboggan costs about \$1,600 and can haul about 1000 lbs. One individual owns a larger 13 HP Autoboggan, which was understood to cost about \$4,000 f.o.b. Sachs, and is capable of pulling a load of 2000 lbs. Ten dogs, it may be mentioned, are quite capable of hauling a load of 1000 lbs., so that only the large model provides an increase in load capacity.

The Ski-doo and the standard Autoboggan can get up to 25 miles per gallon, while the large Autoboggan gets about half this amount. Operating costs are, therefore, five or ten cents per mile, respectively, in gasoline. Clearly, the total expense is much higher, when depreciation, licencing, repairs, oil, etc. are included, but no data could be obtained for these costs. In good conditions, a motor sled can maintain a steady ten or twelve miles per hour for long periods, and with the headlamp one may travel in the dark if necessary.

TABLE 18 — Annual operating and depreciation costs per hunter, Banks Island.

Capital Goods

	Replacement value	Expected Life in years	Annual depreciation
Hunting and trapping equipment			
500 traps, size 1 1/2	\$625.00	10.0	\$62.50
.22 rifle	60.00	3.4	17.65
.222 rifle	160.00	4.0*	40.00
.30-06 rifle	160.00	6.6	24.24
12 g. shotgun	125.00	6.5	19.24
2 scopes	160.00	10.0*	16.00
Subtotals	\$1290.00		\$179.63
Travelling equipment			
20' canoe	\$500.00	4.4	\$113.64
10 HP outboard	465.00	3.0*	155.00
Toboggan	45.00	3.1	14.52
Sled	50.00	2.7	18.52
Subtotals	\$1060.00		\$301.68
Sundries (includes camping equipment and dog harnesses, chains, etc.) estimated:			\$ 75.00
Totals	\$2350.00 (excludes sundries)		\$556.31

Operating Costs

	Annual expenditure
Ammunition	\$150.00
Corn meal (for ten dogs)	200.00
Gasoline	225.00
Naptha	60.00
Total	\$635.00
Grand Total, all costs	\$1191.31

*Arbitrary figure used where actual figure not available or considered invalid due to biased data.

Two of the four machines presently in the settlement are now inoperable and require major repairs. One threw a rod and requires a new engine, which is on order and is expected to cost about \$300. The large machine has not worked since oil of a different grade than prescribed had to be used in the absence of any other. It is not known how costly repairs might be.

All three Autoboggan owners used them on the trapline for the first two years they had them, and thus one may obtain some idea of their efficiency for that purpose. It is of great significance that in every single case dogs were also taken along. Never did they feel sufficiently confident of their machines' reliability on long trips, and indeed their doubt appears to have been justified in view of the fact that breakdowns were experienced on the trail (fortunately all within fifty miles of the settlement). It may also be noted that the missionary, who owns the Ski-doo, will under no circumstances travel more than fifty

miles from the settlement in it. Needless to say, by bringing dogs along, the main advantages of the motor sled are lost.

In theory, the machine allows increased speed on the line and the trapper should be able to make more trips. In this way the men should be able to reduce the present 10-15 per cent loss rate on trapped foxes. In cases where two men trapped together, one travelling by Autoboggan and the other with dogs, it was found that for short periods the dogs would chase the machine, and go faster, and that in certain conditions the machine could break track, but in the long run the dogs got played out, so that a full day's travel covered no greater distance than would have been the case with dogs alone, although travelling time might have been slightly reduced.

In general, the motor sled owners found little or no advantage in mechanized travel. They noted first of all the difficulties of keeping the machines in running order in very cold weather. One man kept his machine in his tent so it could be warmed up before starting in the morning, and even then was plagued with mechanical failures. Other disadvantages noted for trapping were that one gets much colder driving a machine than driving dogs, and that the combustion odour is believed to scare off foxes. Also, when foxes are not taking bait, dog urine around the traps may help to attract them, but clearly machine travel renders this technique impossible.

Another supposed advantage of mechanized travel is that ultimately it should eliminate the dogs altogether. This may be seen as a desirable goal if in the long run it would be cheaper to operate motor toboggans than dogteams, and/or dependence on over-utilized resources is reduced. Two aspects of the problem must therefore be considered: whether it is possible to eliminate the dogs, and if so, whether it is desirable to do so.

The answer to the first question is clearly in the negative, at least at this time and for the presently required purposes. Even if motor sleds were used in pairs when travelling, there is still the possibility that both machines could break down on a 200 or 300 mile journey. Travelling in threes on a regular basis seems out of the question, both because the men themselves would not always wish to, and also because the efficiency of certain endeavour would almost certainly be reduced. Not only do the machines appear inadequate for trapping purposes, but also for seal and caribou hunting. Certainly they cannot be used on rough ice. There are conflicting views as to whether engine noise scares or attracts animals. Some hunters state that hauled-up seals or caribou are frightened by the noise; more rarely, others have observed animals to remain and watch the unfamiliar object approaching, out of curiosity. One must also consider the possibility that animals presently unused to and thus unafraid of motor sleds could become wary in the future, just as well hunted deer herds generally bolt at the sound of a rifle. On the other hand, it could be argued that in the case of the caribou it should be possible for a machine going at top speed to run it down in any case, and that even though this would not apply to hauled-up seals in spring, such seals would not need to be hunted as they are of use only as dog food anyhow.

The main disadvantage of mechanized travel at this time appears to be its unreliability. This is a technological matter which should be overcome in time. Although the other disadvantages are inherent in any mechanized travel, should a reliable machine come on the market, Sachs Harbour trappers might well feel more favourably disposed towards it and to the possibility of getting rid of their dogs.

The desirability of replacing dogs with machines, if it were possible, is clear. Trapping should become more effective, and returns should increase, both because traps could be reset more often, and losses should be cut. Moreover, the cost of a cheap motor sled is less than the theoretical evaluation of food required for a dog team annually. Although it is true that this latter expenditure is primarily in the form of country food rather than in cash, the problem is nowhere near as great as in the Coppermine area, for example (see discussion in Usher, 1965:245-6). There, capital is in short supply, and the country food cannot be used as a substitute medium of exchange. The Sachs Harbour economy, on the other hand, is basically a cash economy, and increased return alone could provide sufficient monies to pay off loans for motor sled purchases in a short time. Whether the actual cash outlay for the operation of a motor sled would be greater or less than for a dog team is not known. If one counts not only the \$200 outlay for cornmeal, but also the

ammunition expenditure and depreciation on rifles, as much of the hunting effort is for the dogs, plus such items as collars and harnesses, the cash cost of a dog team might well be about \$350 per annum. Gasoline for 1600 miles of motor sled travel would be about \$80.00, although since more travel should be possible, fuel costs should accordingly be higher. Other costs, such as oil, maintenance and depreciation, are not known, but it seems doubtful if operating costs could be significantly less than the actual cash figure for dogs.

So far as reducing hunting pressure on local resources is concerned, the only species that would be less sought after would be seal, and then only if pelt prices were very low. However, as there is no apparent evidence of overhunting of seals, this is not a pressing issue. Moreover, if seals were still sought for their skins, the meat would simply go to waste. In such a situation, mechanized travel and a balanced use of local resources would perhaps be incompatible.

There is no question that a reliable motor sled would on the whole be a desirable method of travel on Banks Island, and that by virtue of their predominantly cash economy, Banks Islanders would be in a favourable position both to obtain these machine and to use them to advantage. However, the machines available in the north today at reasonable prices are quite clearly not capable of replacing dog teams. The few motor sleds brought to Sachs Harbour have turned out to be costly experiments. One is now used only around the settlement, for hauling or for going up to the D.O.T. on movie night. Another man intends to use his machine similarly when it is repaired. None intend to use their machines for trapping again, and it appears that they are useful only in the settlement. Clearly the operation of both dog teams and motor sleds is a luxury, and one which can be ill-afforded at this time. Until a highly reliable machine is available, that will positively be a substitute for and not an addition to dogs, no encouragement should be given to their purchase. It is suggested that under present circumstances publicly administered loan funds should not be used for motor sleds except under very unusual circumstances.

CHAPTER VII

THE ECONOMY OF SACHS HARBOUR

Income

There are several problems involved in discussing trapping income at Sachs Harbour, due to the difficulty of obtaining data. Unlike other settlements, where virtually all furs are traded at the local post, and all transactions are recorded, many Sachs Harbour trappers ship their furs directly to raw fur auction houses in southern Canada. In 1964-65 it was estimated that only 43.5 per cent of all furs sold were traded in the N.W.T. (this includes sales to the local trader at Sachs Harbour, the free trader at Inuvik, and the few private sales made to individuals working at or visiting Sachs Harbour), while the remaining majority of furs were sent to auction houses in Edmonton, Vancouver, Montreal and Winnipeg. Of these, the most important is Edmonton. No record is kept of the value of transactions outside the N.W.T., and the only source for this information is the trappers themselves, provided they can locate their invoices and they wish to divulge this material. It was possible, however, to obtain a limited sample of prices obtained at auction, and the average values arrived at were applied to all furs exported. It is believed that the fur income figures obtained are accurate to within five per cent.

During the 1964-65 fur year, fox prices held fairly steady in the area, and depending on quality, pelts were bringing from perhaps \$15.00 to \$20.00, although by the end of the season prices had dropped considerably on the outside market. Seals, which had brought up to \$30.00 in 1963 and 1964, held slightly lower during the present year, and brought about the same prices as fox pelts. However prices appeared to be declining rapidly in the early part of 1965. Bear prices have been slowly but steadily rising, and even a small bear brought \$100.00. Larger skins were naturally worth more.

Fur trapping has traditionally been the basis of the Sachs Harbour economy. The chief fur taken was until recently the white fox, although since 1963 the ringed seal has approached and surpassed the white fox both in number of pelts traded and income realized. Prior to this date, there was no market for seal skins and virtually none were traded. With the sudden rise in demand in 1963, seal skins accounted for about 40 per cent of fur income at Sachs Harbour in 1963-64, and 61 per cent in 1964-65. Although the latter figure is weighted due to the poor fox season, it is still remarkable. It is unlikely that seals will be as important in future years, as prices are now understood to be declining, and due to the amount of work involved in the preparation of seal skins, there will be less effort to market them. Polar bear skins accounted for about 6 per cent of fur income in 1964-65 and perhaps 8 per cent in 1963-64. Possibly when foxes alone were the chief resource, bears may have accounted for a slightly higher percentage of fur income at Sachs, but it is unlikely that it has ever been significantly more than 10 per cent of the total.

It is estimated that total fur income for the settlement in 1964-65 was almost \$60,000, or about \$3,500 per active trapper. The respective 1963-64 figures, on which less reliance is placed, were \$73,000 and \$4,300, approximately. Per trapper income is extremely high, relative to other western Arctic settlements. At a few of the more traditional settlements, such as Holman and formerly Read Island, per trapper income has seldom been more than \$1,000 a year, while in the larger settlements it is far less. Indeed, Jenness has shown that trapping income over most of the Arctic averages less than \$400 per family (1964:101-2).

The per trapper incomes noted above for Sachs Harbour are probably representative of at least average years. It is true that individuals have been known to make over \$10,000 on the Island in top years, but the average figure for even these peak seasons is probably not over \$5,000 unless high prices and high takes coincide. On the other hand, it is quite possible that in poor years the average may be as low as \$2,000 or \$2,500.

It seems likely that the stability of the credit system on which the local economy operates has depended on the regularity of the three year fox cycle. In general, traders or agents will extend credit over lean years in the knowledge that they will recoup within a reasonable time. Despite the relative wealth of Banks Island trappers, this stability is somewhat precarious, and it must be considered a stroke of extreme good fortune that the sudden demand for seal skins occurred when it did, as there might otherwise have been considerable hardship at Sachs Harbour due to the four successive lean fox years between 1961 and 1965.

In 1964-65, trapping income of active trappers ranged between about \$2,000 and \$6,000 (with the exception of two older men who trapped only irregularly), with the average being, as mentioned, about \$3,500. The distribution of per trapper income is shown in Table 19.

The marketing of furs from Banks Island is quite complex. In 1964-65 every trapper split his sales at least two ways, and some sold to as many as five different traders or agents. Most trappers, and especially the best ones, consider Edmonton as their prime market. They deal with an agent of a fur auction house there. Not only do they send their furs to this agent, but they also order their outfits at Edmonton retail or even wholesale prices through him, and he also handles the shipping of these goods. The trappers sent their best furs to auction, retaining poorer ones to sell locally. Generally the arrangement seems advantageous; they can obtain goods much more cheaply than in the north, and they usually realize higher prices on their furs, even though they are charged 6 per cent commission on sales and must also pay both the fur export tax (which is \$.50 per fox and \$5.00 per bear) and the air freight. However, in some cases the trappers have lost by exporting their furs; in the early summer of 1965 fox prices received at auction were about 50 per cent less than what was currently being paid locally.

TABLE 19 — Distribution of per trapper income, Sachs Harbour, 1964-65.

Income Range	No. of Trappers
\$1000 or less	2
2000 - 2999	8
3000 - 3999	1
4000 - 4999	5
5000 or more	2

Although most furs are sent to Edmonton, some men send a few furs to Montreal or Vancouver, in hopes of receiving better prices. However, they can obtain credit most easily in Edmonton, which is important, and in any case they are usually committed to their agent there.

Every trapper trades at least some of his furs locally. Sometimes this is mandatory, in cases where credit could not be obtained in Edmonton, but usually each trapper retains a few pelts to trade either in Inuvik or Sachs to cover immediate needs, or shortages.

The standard of fur preparation at Sachs Harbour is very high. Seal skins are not only well scraped, but washed. They are then stretched and dried (see Plate 13). Drying time varies with weather conditions and can be several days. It is not known exactly how much time is spent in the active preparation of a skin, e.g. scraping, washing, pegging and unpegging, but possibly two hours are required. Bear skins also require considerable preparation, especially scraping.

Foxes are often brought back from the trail and left in the frost cellar until spring, unless they are thawed directly in the house. They are then skinned, turned inside out and stretched on racks. The time required for skinning is not known, but the pelt can be placed on the rack in three or four minutes. The pelts dry on the racks, requiring about half a day if the weather is fine, but longer otherwise. After the skins are removed from the rack, they are cleaned and brushed. Commonly a mixture of cornmeal, flour and gasoline is use for cleaning. The mixture is rubbed into the fur and then brushed out. The mixture helps remove any blood, and dirt that might be on the pelt, and the brushing fluffs out the fur. A fairly clean skin

can be so treated in five or ten minutes, but a dirty one may take rather longer. Finally, the pelts are hung from a clothesline, fur side out, to dry in the wind.



These foxes are thawing out in preparation for skinning. In the background, skins which have been stretched and cleaned are drying on a clothesline.



Mr. Fred Carpenter is sewing up a tear in a fox skin. To the right are pelts turned inside out on racks to dry, and to the left are carcasses of foxes which have already been skinned.



A fox pelt being cleaned and brushed in a mixture of cornmeal, flour and gasoline. Unless the pelt is very dirty this process takes five or ten minutes.



Seal skins being stretched and dried in the sun at the Fish Lake camp nearest to Sachs Harbour, June 1965.

In view of the importance of the fur trade to Sachs Harbour people, it is necessary to improve the situation in order to maximize returns, and this seems to be quite possible. At Sachs Harbour many problems are to a large extent beyond the control of the trappers, individually and perhaps collectively also. Certainly, each trapper expends every effort both to obtain pelts and to prepare them for market. The Banks Islanders produce some of the highest quality white fox fur on the Canadian market. It is true that improved means of winter travel could help to stem losses on the line, but the main problems lie in the marketing of the fur. Nothing can be done locally or even nationally to stabilize fur prices on the world market, and even a system of price supports would be unworkable, especially if there is a longterm downward trend in fur prices. However, it should be possible, by keeping in contact with the fur market, and perhaps having fur agents in the employ of the trappers rather than of the auction houses, to obtain the best prices available at any particular time, by planning where and when to sell furs. At present this is not

possible, and trappers can and do suffer extensive losses on an entire season's catch by sending furs to the wrong place at the wrong time. Recommendations to improve this situation will be found in Chapter VII.

Wage Labour

There is only one permanent wage position available in Sachs Harbour, and that is the job of Special Constable of the R.C.M.P. detachment. One Eskimo in the village can operate heavy equipment, and has done so at times for the D.O.T. This man is hoping to be employed full time in this capacity as he no longer wishes to trap. Another man has worked as bull cook for D.O.T. construction crews in summer.

However, in the last couple of years when seal prices have been high, summer employment has tended to be a substitute rather than an additional source of income. Other occasional sources of wage income are R.C.M.P. garment making contracts, and guiding fees for visiting research workers. Only seven families received any income in the form of wages in 1964-65. Wage labour opportunities at Sachs are clearly minimal, and are unlikely to increase unless a nursing station or school is built. Although oil and gas exploration is being conducted in summer on the northern part of the Island, it has provided no opportunities for Eskimos, and is unlikely to in the future.

Handicrafts

There is no organized production or marketing system for handicrafts at Sachs Harbour, nor is any distinctive art or craft tradition apparent. Virtually all handicraft production is done by the women, and some of them are very competent. Most of the work is in seal skin, and the commonest items are boots, slippers, mitts, and little animals. Occasionally if a young seal is taken with minimum damage it will be stuffed. These stuffed seals can command \$30.00 or more. None of the seal skins used in handicraft work are tanned. Production is on a rather casual basis, and it is unlikely that even the most productive women make more than \$200 or \$300 in a year. Only nine families received income from handicrafts in 1964-65. It is impossible to ascertain total community earnings from handicrafts, but it is doubtful that it much exceeds \$1000, and in 1964-65 appears to have been less than \$800. Possibly about half is sold to the Rehabilitation Centre in Inuvik, and the remainder is bought by the missions, the local traders, or privately by visitors or transients. Garment making accounts for most of the latter sales. Very likely some guidance and organization could improve both the quality and the sale of handicrafts at Sachs Harbour. In view of the increasing age of the population and the probability of retired people living in the settlement, some sort of viable cottage industry will be a great benefit to the community in the near future. This will particularly be so if the men can be involved.

Unearned Income

The income from social security benefits, mainly family allowances, amounted to \$2,919 in 1964-65. The annual amount has slowly been increasing as the population has grown.

Relief payments at Sachs Harbour are less, both absolutely and proportionately, than in any other settlement in the western Arctic and perhaps the entire Arctic. In 1964-65, \$3,361 in welfare funds were distributed. Most of this went to two widows with families, who were also occupying welfare houses. The rest went toward the support of two older men living in Sachs Harbour on a non-permanent basis. Not a penny of relief was distributed for "economic" reasons*, and indeed the only case of such relief ever being issued on the Island was several years ago when a number of families came through a very hard winter at De Salis Bay. Unlike some settlements in which relief runs in the tens of thousands of dollars, and comprises up to a quarter or more of cash income, relief has always been less than five per cent of Sachs Harbour community income. How long this happy situation will continue is by no means certain. The last few years have been unremarkable for fur production, while at the same time expenditures appear to have increased, particularly on housing, and this unfortunate combination has overstrained the resources of many families.

*Defined by the Welfare Division (Northern Administration Branch) as payments made to those who would normally provide for themselves and their dependents, but who are unable to do so because of lack of wage employment opportunities, or poor game resources.

Outstanding debts are extremely high and by the summer of 1965 the necessity of granting relief on economic grounds to several families appeared imminent. Even with general economic improvement, it seems likely that relief expenditures will continue to rise at Sachs Harbour. As people retire from trapping and ultimately obtain the old age pension, very likely their incomes will have to be supplemented by relief payments as is the case in other settlements.

Total Income

Total community income at Sachs Harbour in 1964-65 was about \$71,000, which was down from about \$83,000 the previous year. One income component which cannot be included in either these figures or in the discussion below is the earnings of the trading post proprietor from his operations. All cash figures and totals are therefore slightly lower than actual.

Table 20 indicates the relative importance of the various sources of income discussed. Several aspects of this table are striking when compared with neighbouring settlements. First, the unearned component (social security plus relief) of total income is very low — 6 per cent in 1963-64 and 9 per cent in 1964-65. This compares with about one third in the Coppermine-Holman region in 1962-63 (Usher, 1965:221), 18 per cent at Cape Parry and 16 per cent at Tuktoyaktuk in 1961-62 (Abrahamson, 1963:53, 62). Moreover the figures for Tuktoyaktuk and Cape Parry are understood to be higher now.

TABLE 20 — Sources of cash income, July 1, 1963 — June 30, 1965.

Source	1963-64	1964-65
Fur	87%	83%
Wages	6	7
Relief	3	5
Social Security	3	4
Handicrafts	1	1
	100%	100%

Within the earned component, fur is clearly predominant. Even at Holman fur provides less than 50 per cent. On the other hand, wage income is low, being comparable to Holman and much less than in the larger settlements or Cape Parry. Finally, in no other settlement is handicraft income so low, proportionately.

Average cash income per family amounted to just over \$3,700 in 1964-65, and was almost \$4,400 the preceding year. These figures are considerably higher than at any other Arctic settlement. The range of family income in 1964-65 was from \$1,100 to \$6,400, approximately. Table 21 shows the distribution of income.

TABLE 21 — Distribution of Cash Income, July 1, 1964 — June 30, 1965.

Income Range	No. of Families
\$1999 or less	3
2000 - 2999	4
3000 - 3999	3
4000 - 4999	6
5000 - 5999	1
6000 or more	2

Of the families earning less than \$2,000, two were headed by widows, and one was an older man temporarily resident at Sachs Harbour for special reasons. All were on welfare.

There is of course a country food component of the community's income. A rough value of about \$10,000 could be placed on food produced for human consumption in 1964-65, that is, caribou and geese primarily. The value of dog food produced is not included. On this basis, per family income was almost \$4,300 in the year under consideration. Per capita income based on the summer population of 97 was about \$835. However, if one considers that school children are isolated from the local economy for ten months of the year, the effective consuming population was 81.2 individuals, so that a more accurate figure for per capita income would be about \$1,000, of which \$875.00 is in cash. Although the total amount of \$1,000 is far higher than for any other Arctic Eskimo or Indian community, it is still less than 60 per cent of the national average for 1961.

Expenditures

The largest single expenditure for a Sachs Harbour family is on depreciation and operating costs of a hunting and trapping outfit, which has been shown to amount to about \$1,200, or almost a third of the average family income in 1964-65. If the average value of all produce per trapper (furs plus food for human consumption) was about \$4,000, operating and maintenance costs were about 30 per cent. The previous year the figure was about 25 per cent, and probably the longterm input-output ratio is close to 1:4.

Another important expenditure is fuel. Home heating costs average about \$500, and perhaps another \$100 is spent on naphtha for light. Although local families pay no rent or property tax, considerable monies have been spent over the last few years on home construction, and several families are still meeting their obligations on home loans.

Grocery expenditures are very difficult to estimate, and they vary depending on where they are purchased, and of course on family size. Many families order their year's supply of groceries directly from Edmonton through their fur agent. These bulk purchases enable them to receive wholesale rates, and with freight costs included, the average family spends perhaps \$1,500 on groceries. If all or most groceries are purchased locally, however, as is sometimes necessary, expenditures are much higher. In addition there are clothing and medical expenditures, although these are not known. Clearly, the cost of basic necessities is high at Sachs Harbour. A minimum of \$4,000 annually in cash seems a not unreasonable estimate of the basic requirements of a trapper in order to maintain his family and his livelihood. Community requirements are therefore in the order of \$75,000 or \$80,000. Even this minimum requirement was not met in either 1963-64 or 1964-65. This required expenditure is of course relatively inflexible from year to year, unlike income which is highly variable, and it is for this reason that the credit system is absolutely essential.

In addition to the basic necessities, there are other expenditures. Tobacco and liquor, entertainment (such as the weekly movies at the D.O.T), radios, watches, cameras, phonographs, household gadgets, etc. are common purchases. Eskimos received C.O.D. purchases worth \$1,194.40 at the Sachs Harbour Post Office between February 15 and May 20, 1965, and if this figure is representative, annual C.O.D. purchases may be about \$5,000 for the settlement. Although some of this money is spent on capital equipment, the figure is possibly indicative of the level of spending on non-essentials ordered by catalogue.

Large scale gambling does not appear to be common, and in any case serves only to redistribute money within the community rather than increase or decrease total income or expenditures. Although at least one man has a bank account in Inuvik, saving appears to be most uncommon. Generally the people handle very little cash, as they maintain accounts with one or more traders or agents and may have at any one time a debit or credit.

The Present Status of the Sachs Harbour Economy

The economy of Sachs Harbour is based overwhelmingly on the fur trade, and shows much less diversity than in other Eskimo settlement. Looking forward to the next five, ten or even fifteen years, there

is no reason to suppose that this situation will change radically, although a slow trend toward greater diversity and an increase in the unearned sector of income seems certain. This trapping economy is and must continue to be based on the credit system, due to the wide fluctuations of annual income, the irregularity in time of obtaining furs for trade, and the lag of up to several months between the obtaining of furs and the realization of income from them.

That the local economy should be so largely oriented to trapping is at once a strength and a weakness. Its strength lies in the fact that the Island is rich in furs, and that the numbers and deployment of trappers allows each the opportunity of obtaining sufficient of these resources to make an adequate living. The weakness is in part that of any community dependent on a single resource: The possibility of market slump with no alternative sources of income to turn to, compounded by the irregular availability of the resource. Also, important, however, is the weakness of the present marketing system. It seems possible that considerably greater returns could be realized on present harvests.

Sachs Harbour has a reputation throughout the western Arctic as being a wealthy settlement. Bankslanders are commonly understood to be big earners, big spenders, and high livers, and the Island is known as a place where a trapper can strike it rich. These ideas appear to be based on several extremely large individual catches made in the 1930s and 1940s, three excellent fox seasons over the last 15 years, and the fact that no able-bodied men are on relief. Also, many of the individuals at Sachs are known throughout the region as excellent trappers and some indeed have been very wealthy men even if only for short periods. The Banks Islanders, both as a group and as individuals, enjoyed great prestige in the western Arctic, but it seems probable that this prestige was derived more from the way in which they earned and spent their money rather than how much they earned. It also appears that in recent years this prestige has been accorded primarily by the white community in the western Arctic, and has been nurtured by articles in popular magazines and newspapers. However, several Eskimos not resident on Banks have become aware of the true situation there.

Notwithstanding all these popular notions, and admitting that there is no better place to "live off the land" in the western Arctic, it must be said that the economy of Sachs Harbour is presently in trouble, and possibly serious trouble. It has been suggested that a high peak in the fox cycle every three years has been necessary to maintain the stability of the credit system. The settlement has now been four years without such a peak, and debts have steadily accumulated over this time. It is estimated that the total community debt following the sale of the 1964-65 fox take was at least \$30,000 and might well have been higher. Some individuals were understood to be up to \$4,000 in arrears. In addition, new debts had to be undertaken on outfits for 1965-66, although credit ratings of most men were quite low, and badly needed boats, outboards, rifles and other equipment will not be obtained this year. Clearly a danger point has been reached. In the first place, inability to maintain the stock of capital equipment can only serve to reduce productivity, and second, debts are now so high that it is rather problematic whether they can be paid off on the basis of a single peak year. All are hoping for a top fox year in 1965-66, and it is understood that the season began well. If top harvests are obtained, and the present outstanding debts are not largely cleared by the summer of 1966, the economy will have suffered profound damage from which recovery will be extremely difficult, for the trappers will have been left permanently in debt with little chance to get ahead over subsequent cycles. As a first approximation, it is suggested that community fur income in 1965-66 will have to be at the very least \$105,000 and possibly as much as \$135,000 in order to cover the year's requirements and clear all debts. In view of the decline of seal prices, perhaps 80 per cent of this amount will have to come from foxes, and if \$15.00 per pelt can be realized (which is by no means certain), over 5000 pelts will have to be taken as a bare minimum.

The immediate economic outlook is not good. It is by no means hopeless, however. Certain measures can and must be taken to alleviate the situation, and these will be discussed in the next chapter.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

Most of the conclusions drawn have already been put forward in the preceding chapters. The purpose here is to review briefly the main findings and to recommend programs of action and research. The general conclusions will be discussed first, and then the specific conclusions and recommendations will be set out in topical order. Some of these recommendations are considered to be relevant to the problems of other areas in addition to Sachs Harbour, and involve research programs of a general nature.

General Findings

Such areas as the Mackenzie and Keewatin mainland coasts, and the central Arctic islands, have been observed to suffer from broadly similar problems, varying regionally only in degree. The general pattern has been one of increasing populations, a drift away from the hinterlands to a few overcrowded settlements, a narrow renewable resource base, and insufficient alternative opportunities for earning a living. The old way of life became untenable, and nothing adequate replaced it. Welfare payments rose sharply to fill the gap, but now threaten to become a permanent institution. Generally, there has been a failure to adjust both to changing resource harvesting opportunities and to the incipient development of a wage economy. Therefore the recommendations of previous area surveys have stressed the possibilities of improved methods of harvesting traditional resources, the tapping of unused resources, and the development of alternative sources of income for regions in which the renewable resource base was insufficient to support the inhabitants,

Some of the problems of Sachs Harbour are quite different from these areas, and call for different solutions. Banks Island is rich in renewable resources, and contains a population appropriate both in numbers and skills to utilize these resources at a high level. The chief problems lie in the marketing of these resources and in inadequacies of financing trapping and hunting activities.

The uniqueness of Banks Island lies in the fact that its occupants are there not by birth and tradition, but by choice. We see at Sachs Harbour a community which grew by its own initiative and adjusted remarkably well to the opportunities which arose in the peculiar context of the northern trapping economy. The trappers have each made a conscious commitment. Capable men, proud of themselves and their way of life, they came to pursue the trade they knew the best, knowing that on Banks Island they could make a success of it. They did not come to hang around the settlement, nor to collect relief. They know full well the conditions of life they left behind on the mainland shore, and it is their fervent wish that such a fate should not befall themselves and their community. By their resourcefulness and industry they have done their best to prevent this. Yet they stand in 1965 at the crossroads. Which way shall it be?

The failure of Sachs Harbour as a viable community would be more than a tragedy for the Banks Islanders and an additional burden on the already overcrowded neighbouring settlements. Renewable resource harvesting on Banks Island should have a better chance of success than in any other area. Until an alternative way of life presents itself, its economic failure cannot be permitted to happen.

Several important facts and trends have been identified. The population now appears to be at an optimum level, in view of its concentration at Sachs Harbour. This concentration of the people is consistent with their own social and economic needs and desires, and it is felt that dispersal is neither likely nor desirable. The permanence of the community is no longer in doubt, and accordingly all the appropriate community services should now be provided. The technology, areal deployment and annual cycle of

hunting and trapping appear consistent with optimum resource utilization and should not be upset. The economy is presently weak, but remedial measures should be possible in the marketing of produce and the allocation of credit which could restore it to health.

Specific Conclusions and Recommendations

The Community

The population of Sachs Harbour has now reached the optimum consistent with present techniques of travel and resource harvesting. Therefore absolutely no encouragement should be given at this time to the immigration of new families to the settlement. Due to the relative inaccessibility of possible bases for the exploitation of presently unutilized areas of the Island, and the expense of establishing such bases and maintaining them for permanent occupation, the utilization of new areas on a continuous basis is not advisable. In short, Banks Island offers no opportunity whatever for the relocation of families from other overcrowded areas.

Not only is the stabilization of the Island's population at about the present level desirable, but it is also possible and likely. A means of population control has already been institutionalized in the form of the Trappers' Association, and every encouragement should be given to assure the proper functioning of this body as a regulatory mechanism. There should be no movement of native peoples by any government department for any reason unless in consultation and agreement with the Trappers' Association.

It is believed that the community is now permanent to all intents and purposes. The development of community responsibility and action, and a sense of involvement for all, is therefore considered desirable. Such development has begun and should be nurtured. Dealings of the Federal Government with the community should be through its elected leaders.

Because of the permanence of the settlement, the appropriate community services must be developed accordingly. It is recommended that:

Northern Health Services be requested to give priority to the construction of a nursing station at Sachs Harbour to be staffed on a full time basis as soon as possible.

Education Division be requested to consider locating an elementary day school at Sachs Harbour, particularly in view of the likelihood of its success.

Engineering Division be requested to investigate the feasibility of the installation of a water tank in the settlement to be filled by siphon from the D.O.T. lake in summer only, and to investigate the feasibility of the electrification of the settlement.

Housing and sanitation, although good by northern standards, can still be improved. Many families have chosen to build their own houses rather than select from prefabricated designs. There is nothing wrong with this practice, although with some guidance mistakes could be avoided and conditions improve. It is therefore suggested that Engineering Division be requested to issue a simple non-technical leaflet outlining the most suitable materials and specifications to assist those ordering building materials. Emphasis should be placed on such topics as insulating materials and sanitation measures.

Resource Utilization

Present resource harvesting practices are yielding excellent results and therefore no steps are required for their improvement. The level of resource utilization is at an optimum. There are no unused resource species of any significance and therefore no recommendations are offered for new resource harvesting programs. The yearly cycle of activity is well balanced and entirely functional, and it seems inadvisable to upset this balance by offering alternative pursuits to active trappers.

Although areal utilization is at maximum levels in terms of permanent residence patterns, it should be fruitful to tap unutilized areas in good years. This applies mainly to fox trapping. Crude but fairly simple methods exist for predicting good fox years on the basis of lemming prevalence and litter size (see Abrahamson, 1964:163-64). It is therefore recommended that interested persons from either the white or Eskimo community be instructed in the appropriate techniques. Encouragement and assistance should be given to trappers interested in exploiting unutilized areas in good years. One way of doing this is to build trapping cabins along the west coast and so reduce trapping intensity in the vicinity of Sachs Harbour. The trappers themselves can readily do this so long as summer ice conditions allow them to bring necessary equipment around by boat. To utilize the far northern and eastern parts of the Island, however, it would be necessary for a trapper to charter an airplane in the fall and spring, and some sort of loan or advance would be necessary. In the latter case especially, it seems likely that the trappers involved would seek some assurance of regular visits, perhaps on a monthly basis, by the nurse and the administrator or the police constable.

Because seal oil is not used for heat or food, this byproduct is surplus to the needs of the community, and is now going to waste. Average production is about 5000 gallons, and as other western Arctic settlements also produce a surplus, they may be sufficient quantities in the region to warrant a study of possible uses to which this oil might be put, and the cost of refining techniques required, if any. Market possibilities for surplus oil from the Arctic coast should be investigated first of all in the Mackenzie Delta or valley, and secondly outside.

Now that seal prices are declining, the skins may once again be unutilized. Possibilities for alternate uses of seal skins either locally or outside should be investigated. This recommendation applies to the entire Arctic.

Bowhead whaling does not appear to be feasible at this time for several reasons. The activity is inconsistent with the yearly cycle and the deployment of hunters, and success is in any case rather problematic. Present legislation also discourages whaling or its development under the circumstances. Although whaling does not seem advantageous at this time, it may become so in the future, and a careful review should be made of the full implications of present restrictions on whaling, and of the possibilities of changing regulations if necessary but still honouring our international commitments.

Capital Equipment

Ammunition costs could be considerably reduced if a reloading machine were available in the settlement. Some individuals have expressed interest in such a machine, but it is both expensive and wasteful for one person to purchase and own. Possibly the Community Association could purchase a reloader which members could then use in common.

Neither of the two schooners in the settlement is used, and the owners would be pleased to sell them. If boats are required elsewhere in the western Arctic for projects, consideration should be given to the purchase of these schooners. Qualified individuals in Inuvik could appraise the cost of refitting these schooners, and their present values.

Motor sleds are considered to be unsuited to the needs of trapping on Banks Island at this time. Unless and until motor sleds can replace, rather than be an addition to dogs, they are costly luxury items, and no consideration should be given to loan applications for their purchase.

The most important investment Sachs Harbour trapper can make is toward the maintenance or improvement of his stock of capital equipment. In view of this fact, loan applications for this purpose should receive the highest priority. Sufficient flexibility should exist in the Eskimo Loan Fund regulations that loans for any investment that is clearly income-generating should be granted even if repayments are in arrears on non-productive loans such as for houses.

The Economy

The stability of the credit system is essential to the proper functioning of the economy of Sachs Harbour. It is necessary that a cycle be maintained, at the end of which all debts are virtually cleared. In future this will depend on an improved system of marketing and the increased skills of local trappers in dealing with market situations. Despite the fact that both the quality and the quantity of pelts marketed is extremely good, full income potential is not always achieved. Under the present marketing system, the seller finds himself at a distinct disadvantage in relation to the buyer. Until the two can meet on equal terms, the trapper will continue to be dispossessed of the full fruits of his toil.

It is felt that the practice of selling furs directly at auction is in the long run beneficial and should be encouraged, not only at Sachs Harbour but at other settlements also. Not only will higher prices be realized than through marketing furs locally, but the practice will serve to reduce the isolation of the Eskimo from the national economy, and to acquaint him with the workings of business transactions in the larger world which he must ultimately take full part in.

It is believed that the volume of furs produced in any one area or even the entire Arctic warrant neither a system of price support nor a marketing board. However, it seems advisable at this time to consider a complete study of the problem of fur marketing on an Arctic-wide level, and to assess the prospects of the world fur market in general.

In the meantime, certain limited measures seem possible, especially with reference to Sachs Harbour although they could also be applied on a more general basis.

Fur prices are notoriously variable, and fluctuate both in time and from place to place. An individual in contact with the fur market can make reasonably intelligent decisions as to the most appropriate times and places to sell furs. The Eskimo is not in such a position, and furs must be consigned blindly. It is important that such information be made available to individual trappers. The most appropriate vehicle for communicating this information is probably a fur market report, broadcast on the Inuvik radio station at regular intervals, akin to the farm broadcasts in southern Canada. It is recommended that Industrial Division investigate the feasibility of such broadcasts in co-operation with CHAK.

The main problem that would arise for any trapper who hopes to gain greater flexibility in his choice of markets is that credit may not be so easily obtained from any one source if he is not a regular client and has no furs on hand. Should this situation arise there would have to be some arrangements made to increase the availability of longterm credit locally.

It is not only important that the trapper have better information on which to base sound sales decisions; he must also have the skills to use this information. Many people at Sachs Harbour can neither read nor write, and very few are capable of even the most simple arithmetic computations. Without such basic skills, the average trapper finds himself at a distinct disadvantage in the impersonal world of invoices, receipts, bills and balance statements. Illiteracy was disadvantage enough in the days of personal dealings with local traders. Now reading, writing and arithmetic are absolutely essential to the successful participation in national economic life. It is not sufficient to marvel at how the Bankslanders have managed to deal with southern auction houses and order their yearly outfits at all; they can and must do better.

An adult education program stressing literacy, arithmetic, and the understanding of personal financial transactions including large scale purchasing, freight rates, credit, banking, insurance etc. is therefore considered essential to the future success of Sachs Harbour economic life. It is recommended that Education Division be asked to consider such a program without delay. It is felt that this is of more pressing importance than the construction of an elementary day school at Sachs Harbour, although it suggests a multifunctional role for such a school which would be advantageous.

These recommendations concerning fur marketing improvement and adult education are considered to be of immediate importance. The future viability of Sachs Harbour may well depend on the success of

fur sales in the spring and summer of 1966. However, there are other possibilities for economic improvement in the future.

In view of the fact that the Banks Islanders are considered sufficiently affluent to be asked to pay their medical bills, they should be made fully aware of what health insurance schemes are available to them.

It has been suggested that within the next few years, some trappers will be retiring, and there will be an increasing number of older people in the settlement. It is not too soon to think about their economic future. Alternative sources of income should be made available within the next few years.

One trapper who retired in 1965 was able to obtain full time skilled employment at the D.O.T. station by virtue of his previous training. If a nursing station and/or school is built, at least one additional unskilled position will be opened, and should be made available to a retired trapper.

There appears to be some scope for improvement in quality and marketing of handicrafts. Emphasis on cottage industry rather than art will probably be the most fruitful approach, although the latter should not be ignored. Maximum benefits will be derived if older men can be involved. It is therefore recommended that a crafts officer visit the settlement to investigate the situation, in consultation with the appropriate local officers in Inuvik who have had some contact with the Banks Islanders.

The question arises of tourism and possible benefits to the local population. It is difficult to evaluate the tourist potential of Banks Island in the absence of a more general assessment of the N.W.T. as a whole. However, several features which have attracted tourists elsewhere in the Territories are absent from the area. There is no opportunity for rewarding sport fishing, and the local scenery is rather unremarkable. Sport hunting would require changes in the game regulations and there is no assurance of the wisdom of such changes locally at this time. Sachs Harbour is an expensive place to visit, although it may offer some romance to the potential tourist, which is not an unimportant consideration. However, whatever advantages the tourist may see in Sachs Harbour, the possible benefits to the Eskimos seem dubious at this time. It is unlikely that a sufficient number of tourists could be attracted to warrant the operation of a commissary. Otherwise there is only the possibility of guiding, which would almost certainly have to involve active trappers. Because of the fundamental balance of the annual cycle of activity, the organization of guiding could possibly disrupt this balance, resulting in economic loss rather than gain. Findings concerning the development of tourism locally are therefore essentially negative.

In general it is suggested that opportunities for income from wage labour and cottage industry should be made available in such a way as to attract only those who are no longer trapping, and whose needs are therefore greatest. Successful trapping is a full time activity on Banks Island, and these alternative activities should not in general be seen as a supplementary source of income for trappers.

Recommendations for Future Research

The Area Survey Program emphasizes the need for further long term research in order to obtain basic data and to develop appropriate methodologies, concepts and models for the realistic and meaningful analysis and solution of the problems of Arctic peoples. Some topics of research relating to Banks Island have already been noted; in particular it is felt that any reliable assessment of the future of settlement there must be based on a clear understanding of when and why people came and left, their social and economic ties with each other and with neighbouring groups, their family size and structure, etc.

Wildlife and its utilization must continue to be important objects of further research. Much more information must be obtained on the following matters:

Wildlife — Investigations of the major economic species should be conducted. Topics of study should include total numbers, spatial distribution, sustainable yields and the question of home ranges and travel habits of each species.

Food Value of Country Produce — Accurate evaluation of the nutritional value of country food in terms of calories, proteins, etc. is extremely desirable. Attention should also be given to the problem of placing realistic cash evaluations on country food.

Trapping and Hunting — Trapping and hunting practices require further study. Emphasis should be placed on efficiency of methods, the mechanics of the annual cycle of activity, the functional interdependence of the various economic activities, and the cultural, economic and biotic factors affecting effort, production, and the system of hunting and trapping priorities. Increased accuracy, completeness and standardization of method is still desirable in the reporting and recording of wildlife harvests.

Clearly this is only a partial list; research on these and other topics will be of interest to the social scientist, of value to the administrator, and most important, of benefit to northern people themselves.

Appendix A

Housing, by families, January 1, 1965

Family Number	Material	Age	Rooms	Area (sq. ft.)	Occupants		Total	Sq. ft. person	porch	warehouse
					Adults	Child.				
2	finished tent	4	2	192	2	3	5	48	x	x
3	prefab.	3	3 1/2	576	2	1	3	192	x	x
4	frame-plywood	5	3 1/2	520	2	3	5	104	x	x
5	frame-plywood	3	2 1/2	320	3	3	6	53	x	x
6	frame-plywood	3	1 1/2	224	3	4	7	32	x	x
7 & 16	frame-plywood	2	1	256	3	3	6	43	x	
8	rigid-frame	3	1	256	2	3	5	51	x	
10	frame-plywood	2	3	352	4	1	5	70	x	x
11	frame-plywood	9	1	252	3	1	4	63	x	x
12	frame-plywood	4	2	320	2	2	4	80	x	x
13	frame-plywood	2	3	320	3	0	3	107	x	x
14	frame-plywood	19 ¹	3	324	2	2	4	81	x	x
15	frame-plywood	2	2	224	2	6	8	28	x	
17	frame-plywood	5	2	320	2	1	3	107	x	x
18	rigid-frame	3	1	256	2	1	3	85	x	
19	frame-plywood	9	1	216	2	1	3	72	x	x

¹ Average age. One section of house is 28 years old, the other is 10.

The table does not include Family #1, a single man with no fixed residence, or Family #9, a single man whose residence (a small tent), has no fixed location. Two unoccupied frame tents are also not shown.

Appendix B

Indices of Trapper Effort, by Individual, Sachs Harbour, 1964-65.

Trapper no.	Partner no.	no. traps set	no. dogs used	Main Lines					Day Lines					Total			
				length of line, return (miles)	characteristics of line	no. of trips	total days	ave. no. days/trip	total travel (miles)	ave. travel/trip (miles)	ave. no. miles/day	length of line, return	no. of trips		total travel (miles)	total days	total travel
1	2,3	300	8-9	160	str.	4	42	10	640	160	16		3	640	42	640	47
2	1,3	700	9	160	str.	6	62	10	960	160	16	30		1050	65	1050	175
3	1,2	500	11	160	str.	3	29	10	480	160	16			480	29	480	76
4	14	400+	9	210	cir.	6	67	11	1060	177	16			1060	67	1060	121
5		400	9	210	str.	5	51	10	940	188	19			940	51	940	26
6	16	500+	9-11	265	loop	5	56	11	1260	252	23	30	5	1410	59	1410	91
7	9,10,15	250	7	220	str.	4	35	9	770	192	21			770	35	770	59
8		300	9	180	str.	5	51	10	730	146	15			730	51	730	100
9	7,10,15	300	8	250	spur.	5	60	12	1000	200	16			1000	60	1000	45
10	8,9,15	50	9	100	str.	4	35	9	400	100	11			400	35	400	30
11		250	7	195	str.	5	50	10	865	173	17	30	3	955	53	955	76
12	13	600	9	290	loop	5	68	14	1300	260	18			1300	68	1300	151
13	12	635	10-11	290	loop	5	68	14	1300	260	18	40	7	1580	75	1580	172
14	4	400	9	210	cir.	6	67	11	1060	177	16			1060	67	1060	104
15	7,9,10	300	6	220	str.	6	59	10	1040	173	17			1040	59	1040	96
16	6	400	8	265	loop	56	56	11	1260	252	23			1260	56	1260	75
17		400	11	200	str.	6	99	16	1000	167	10			1000	99	1000	99
		c. 6700	150			86	955		16065				18	610	973	16675	1543

str. — straight, cir. - circular.

Does not include one trapper for whom information not obtained.

Appendix C

Log of a Floe Edge Seal Hunt, Banks Island, June 23, 1965.

Two hunters were present throughout, with the writer observing. We were joined periodically by other hunters. The hunt was based at the outermost Fish Lake camp, and took place about a quarter mile or so offshore. During the nineteen hour period, everyone took short naps occasionally, but at least one person was awake at any given time, so that a perpetual watch was kept for seals. Coffee or tea was brewed periodically on the naphtha stove, and such items as dry fish, dry goose, tinned fruit, chocolate, pilot biscuits and jam provided snacks.

.222 rifles with scopes were employed.

Time of sightings	no. of shots taken	seal hit	lost by sinking	length* in inches	condition of pelt	remarks
0230	3	x	x			
0245	3	x		not mes'd.	poor	
0350	2	x		49	fair	
0405						
0420						
0440	1	x		49	fair	
0445	1	x		45	fair	
0500	2	x	x			
0510	2	x		48	fair	
0510						
0520	1					
0535						
0547	1					
0550						
0605						
0626	1					
0655						
0705	1	x	x			bearded seal
0745-0830	1					
	1					
	1	x		28	good	
0840	1	x		45	fair	young
0845	1					
0855	1	x		44	fair	
0902	1	x	x			
0940	1					bearded seal
1005	1	x	x			
1130-1600 one seen						
1645	1	x		43	fair	
1647						
1710	1	x		42	fair	
1725	1					
1740-1815	1	x		48	fair	
1855	3	x		45	poor	
1920						
1950	1	x		43	fair	
1955	1					

Appendix C (Cont.)

Time of sightings	no. of shots taken	seal hit	lost by sinking	length* in inches	condition of pelt	remarks
2015						
2112	1	x		45	fair	
2128	1	x		35	fair	

Departed from the floe edge at 2135.

*Length is measured from the tip of the nose to the tip of the tail.

Forty seals were sighted, or about one every 29 minutes. Of these, two were ugyuks. Attempts were made to kill 29 of the forty, and a total of 38 shots were fired. Nine seals were possibly wounded or missed altogether, and of the 20 seals hit, five sank before they could be retrieved. An average of 2.5 shells were expended for each seal actually retrieved. Of these 15 seals obtained, two were fit only for dog food, twelve of the pelts were saleable but would not bring top prices as they were faded, and the one young seal appeared to be in good condition.

Appendix D

Observations of Bowhead Whales near Sachs Harbour, June 1965.

Part A. Log of Bowhead Whale Observations, June 1965.

Observation number	date	time	location ¹	heard only	sighted	no. seen	distance from floe edge	remarks
1.	c. June 18	?	Sachs Hbr.	x				
2.	June 23	0515	Fish Lake		x	2	c. 2 miles	Travelling SE-NW (see Pt. B)
3.	June 23	0700	Sachs Hbr.		x	1		
4.	June 23	0800	Fish Lake	x				
5.	June 23	1500	Mary Sachs		x	1	300 yds.	
6.	June 23	1525	Fish Lake	x				
7.	June 23	1600	Sachs Hbr.		x	2	at floe edge	Poss. same whales as obs. no. 2.
8.	June 23	2000	Mary Sachs		x	1	c. 1/2 miles	
9.	June 23	2100	Fish Lake		x	1	c. 1/2 miles	

None had been seen by pilots crossing Amundsen Gulf as of July 2.

The above list includes at least four separate whales, and possibly six, not including the one heard on June 18. Only one of the whales sighted came within striking range of the floe edge.

¹Location refers to the floe edge out from the stated point.

Appendix D (cont.)

Whales first heard at 0508.		Surfaced	Dived	No. seen
		0515	0519	2
		0522	0524	1
		0530	0535	2
		0542	0546	2
		0548	0555	2
		0605	0607 (or 0610)	2
		0618	0624	fog

The whales were about two miles out, and moved northwestwards through an arc of about 45° between 0515 and 0607. They invariably dived within seconds of each other, and appeared to surface together also.

Part B. Diving and Surfacing Times of Two Bowhead Whales Seen Near Fish Lake, June 23, 1965, 0700 hrs.

Appendix E

Dog team travel, Sachs Harbour, 1964-65.

Trapper number	Miles travelled in year				Total
	Trapping	Bear hunting	Caribou hunting	Other	
1	640	240			880
2	1050	210	255		1515
3	480		160		640
4	1060				1060
5	940		90	110 ¹	1140
6	1410		195		1605
7	770	200	90		1060
8	730		180	250 ²	1160
9	1000		125	400 ³	1525
10	400				400
11	955		180		1135
12	1300		255		1555
13	1580		160		1740
14	1060	210	255		1525
15	1040	200	100	530 ³	1890
16	1260	210		250 ²	1720
17	1000		100		1100
Totals	16675	1270	2145	1560	21650

Average travel for the above purposes amounts to 1274 miles. No specific data could be obtained for seal hunting and sundry trips, but these probably total about 300 miles or so per person, so that total annual travel per dog team may be about 1600 miles.

¹Trip to Masik valley for hares. ²Journeys for which engaged by the area survey officer.

³Spring visits to Holman.

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